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New Program Proposal

Primary Contact Information

Institution: University of Alabama

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Program Information

Date of Proposal Submission: 11/7/2025

Award Level: Bachelor's Degree

Award Nomenclature (e.g., BS, MBA): BS

Field of Study/Program Title: Artificial Intelligence

CIP Code (6-digit): 11.0102

Delivery Method (Main campus, Online, or Both): In-person/Main Campus

Administration of the Program

Name of Dean: Clifford Henderson

Name of College/School: College of Engineering

Name of Chairperson: Shahram Rahimi

Name of Department/Division: Department of Computer Science

Name of Representative for Proposal (if not chair): Monica Anderson

Implementation Information

Proposed Program Implementation Date: 8/16/2026

Anticipated Date of Approval from Institutional Governing Board: 3/13/2026

Anticipated Date of ACHE Meeting to Vote on Proposal: 11/7/2025

SACSCOC Sub Change Requirement (Notification, Approval, or NA): NA

Other Considerations for Timing and Approval (e.g., upcoming SACSCOC review):

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I. Program Description

A. Concise Program Summary (one paragraph) to be included in ACHE Agenda:

The proposed Bachelor of Science in Artificial Intelligence (BS in AI) at The University of Alabama will equip students with a strong computer science foundation and specialized AI knowledge to meet the growing demand for skilled AI professionals. Rooted in programming, algorithms, databases, computational theory, and interdisciplinary study in areas such as cognitive science or neuroscience, the program will prepare graduates to design, develop, and advance AI-powered models, systems, and applications. Unlike non-computer science AI programs that focus primarily on using existing tools, this computation-centric degree emphasizes both the "how" and "why" of AI, fostering analytical thinking and problem-solving skills essential for innovation. Students will complete foundational CS courses, core AI classes such as Artificial Intelligence, Big Data, and Machine Learning, and advanced electives tailored to their interests, while benefiting from opportunities to integrate neuroscience or cognitive science coursework. The degree supports workforce development in Alabama by producing AI-literate graduates ready to drive innovation in industries such as manufacturing, healthcare, transportation, and security, making them highly competitive for roles like AI engineer, machine learning engineer, robotics engineer, and AI healthcare specialist, and helping position the Computer Science department as a leader in AI education.

A.1. Describe the purpose of the program and how the program's purpose is related to the mission and goals of the department, college, and University.

The proposed program aligns closely with the mission and goals of The University of Alabama by preparing professionals in the field of artificial intelligence who can contribute meaningfully to the advancement of the intellectual and social condition of the people of the state, the nation, and the world. The impact of AI is broad and transformative, with applications that enhance automation, improve workplace safety, reduce human error, personalize education, and support data-driven decision-making. As demand for skilled AI professionals continues to grow nationally and within Alabama, this program is designed to help meet that critical need.

The program also supports the mission and goals of the College of Engineering by advancing knowledge through both education and research. The curriculum is designed to equip students with the technical and analytical expertise needed to contribute to the evolution of AI. In addition, collaboration with the ALA-AI and industry partners will provide students with exposure to real-world, interdisciplinary problems, fostering their ability to address complex global challenges—an essential component of the College's mission.

Within the Department of Computer Science, the program furthers departmental goals by delivering a comprehensive academic experience grounded in both theory and practice. Students will build a strong theoretical foundation in AI and core computer science, preparing them for professional success and societal contribution. Furthermore, opportunities for hands-on learning through projects with the ALA-AI Center and collaborative faculty research—within computer science and across the broader university—will ensure that graduates are not only knowledgeable but also experienced, capable, and well-prepared to enter the AI workforce.

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B. Specific Rationale (Strengths) for the Program

List three (3) to five (5) strengths of the proposed program as a specific rationale for recommending approval of this proposal.

1. The Department of Computer Science offers a large number of courses in AI and has a group of faculty working in research areas relevant to this degree, such as machine learning, data science, robotics, and brain-computer interface.
2. AI is a specialized branch of computer science that provides the computational foundation, but the degree is interdisciplinary and also integrates knowledge from computational theory and cognitive science, and neuroscience.
3. The AI industry recruits professionals with strong computer science backgrounds, and a BS in AI housed in a Computer Science department provides the technical foundation, computational expertise, and industry alignment for AI careers.
4. We anticipate a growth of students who are interested in AI-related careers. We are positioned uniquely to capitalize on this demand. We are on the leading edge of applied AI-related research (e.g., Water Institute, Center for Advanced Public Safety, Alabama Life Research Institute).
5. The program will address the growing workforce demand for trained professionals in AI-related fields, including machine learning engineers, software engineers - AI, robotics engineers, and those specializing in AI for healthcare.

C. External Support (Recommended)

List external entities (more may be added) that may have supplied letters of support attesting to the program's strengths, and attach letters with the proposal at the end of this document.

1. Dalain Williams - Google
2. Ben Weissman, PE – Jordan and Skala Engineers

D. Student Learning Outcomes

List four (4) to seven (7) of the student learning outcomes of the program.

1. An ability to analyze complex computing problems and apply principles of computing to develop appropriate solutions.

2. An ability to design, implement, and evaluate AI-based computing solutions that meet specified requirements.

3. An ability to communicate effectively in a variety of professional contexts

4. An ability to recognize and uphold professional, ethical, legal, and social responsibilities in the development and deployment of AI systems.

5. An ability to collaborate effectively as a member or leader of a team engaged in AI related activities.

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6. An ability to apply foundational concepts in artificial intelligence to solve real-world problems.

Attach an Assessment Plan for the proposed program to include the student learning outcomes, assessment measures, and a curriculum map.

The student learning outcomes, assessment measures and a curriculum map appear at the end of this document.

Similar Programs at Other Alabama Public Institutions

List programs at other Alabama public institutions of the same degree level and the same (or similar) CIP codes. If no similar programs exist within Alabama, list similar programs offered within the 16 SREB states. If the proposed program duplicates, closely resembles, or is similar to any other offerings in the state, justify any potential duplication.

CIP Code	Degree Title	Institution with Similar Program	Justification for Duplication
11.0102	MS in Artificial Intelligence Engineering	Auburn	Graduate-level degree
11.0102	BS in Artificial Intelligence	Mississippi State University	Similar to the proposed curriculum. Demand in this area is high enough to justify multiple programs.
11.0102	BS in AI and Business Analytics	U South Florida	The program focus provides a business approach to AI and not the computational foundation of the proposed degree
11.0102	BA in Cognitive Science	U Georgia	Less emphasis on computational foundation than the proposed degree
11.0102	BS in AI	U Texas, El Paso	A similar program, but it is outside of the southeast, and demand in this area is high enough to justify multiple programs.

E. Relationship to Existing Programs within the Institution

Nearly all new programs have some relationship to existing offerings through shared courses, faculty, facilities, etc. Is the proposed program associated with any existing offerings within the institution, including options within current degree programs?   **Yes** ☒ **No** ☐

If ***yes***, please describe these relationships, including whether or not the program will replace or compete with existing offerings: (***Note:*** If this is a graduate program, list any existing undergraduate programs which are directly or indirectly related. If this is a doctoral program, also list related master's programs.)

Related Degree Program Level	Related Degree Program Title	Explanation of the Relationship Between the Programs
BS	Computer Science	Shared courses or resources
BS	Data Science	Shared courses or resources
MS	Computer Science	Shared courses or resources

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MS	Artificial Intelligence (proposed)	Shared courses or resources
PhD	Computer Science	Shared courses or resources

The Department of Computer Science offers a Data Science (DS) BS degree that is a joint program between the Departments of Mathematics and Computer Science and is housed in the Math department. The BS in DS is not considered as competing with the proposed degree for the following reasons. The fields of AI and data science are distinct with different goals and scope, so the depth and focus for the two programs differ as illustrated in the figure below. The courses taken for a BS in CS have been included for additional comparison.

Program	Total Math Courses	Total CS Courses	Core & Traditional CS courses	AI/DS CS4xx Courses
BS in AI	6	15	6	9
BS in DS	9-11	7-10	6	1-4
BS in CS	4	10-14	10-14	0-4

Number of Courses for AI, DS, and CS

The ranges in the table designate a minimum and maximum number of courses due to the electives in the program. The "Total CS Courses" column includes all the courses taken with a CS prefix, while the remaining two columns specify which of those total CS courses are required courses not specific to AI or data science (labeled "Core & Traditional CS Courses") and those CS 4xx courses that are specific to AI or data science (labeled "AI/DS CS 4xx Courses").

The BS in DS and BS in AI will draw from different pools of potential students. The students who wish to pursue the BS in Data Science are students who are strong in math and appreciate the rigor of advanced courses in mathematics. BS in AI students are those who enjoy programming and appreciate the challenge of studying AI within real-world constraints from an advanced computer science perspective. For example, DS students may take as few as seven CS courses, of which only one is a specific CS 4xx DS course, and up to 11 Math courses. AI students take six Math courses and a total of 15 CS courses, of which six are traditional CS core courses and nine are CS 4xx courses covering the topics of AI.

The Computer Science department currently offers 15 CS 4xx courses in the topics of AI and data science. Of those 15 CS 4xx courses, only CS 451 Data Science is required for the BS in DS. Four other CS 4xx courses have been identified as relevant to the Data Science program as electives, but these courses are listed along with four other Math classes to satisfy the depth requirement for the BS in DS and from which students choose two. In addition, four additional CS courses plus one Physics course are listed as electives for the machine learning/AI requirement for the BS in DS from which students choose one course. Computer Science majors have the option of taking up to four AI/DS CS 4xx courses as their four CS electives, with the remaining 10 courses traditional CS topics courses.

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The career paths of AI engineers and data scientists will differ. Data scientists analyze and interpret large datasets to discover patterns, trends, and insights, and build predictive models. AI engineers focus on developing and building AI-powered models, systems and applications that can learn, reason, and solve problems. There is some overlap in the two fields, and the BS in AI and BS in DS programs both require students to have basic core knowledge of programming, algorithms, statistics, and data management. However, the two programs differ in terms of their depth and emphasis. Data science requires a deeper understanding of advanced topics in mathematics and statistics, while AI requires a deeper understanding of computer science and such topics as neural networks, architectures and algorithms that exhibit autonomy and adaptation through learning, and the programs reflect this difference.

If *not*, please describe how the institution plans to support a program unrelated to existing offerings.

F. Collaboration

Have any collaborations **within your institution** (i.e., research centers, across academic divisions, etc.) been explored?   **Yes** ☒ **No** ☐

If *yes*, provide a brief explanation of the proposed collaboration plan(s) for the program:

The BS in AI program requires all students to complete the CS495 Capstone Computing course. Dr. Jiaqi Gong, the Director of the Alabama Center for the Advancement of Artificial Intelligence, has proposed collaborations between the students in this program and ALA-AI on senior design projects for CS495 and other AI class projects. Such a collaboration will provide students with the opportunity to work with faculty from many different fields across the University. In addition, through ALA-AI, other corporate and industrial entities can engage with and support senior design projects.

Have collaborations with **other institutions or external entities** (i.e., local businesses, industries, etc.) been explored?   **Yes** ☐ **No** ☒

If *yes*, provide a brief explanation of the proposed collaboration plan(s) for the program:

G. Programmatic (Specialized) Accreditation

Select the appropriate program accreditor from the drop-down menu below:

Accreditation Board for Engineering and Technology (ABET)

Provide a detailed timeline for gaining accreditation (i.e., when will full candidacy be reached?):

We will pursue accreditation for this program after the first student reaches full candidacy, when the accreditation board for our computing field, the ABET Criteria for Accrediting Computer programs (CAC), makes accreditation available for AI degree programs.

H. Professional Licensure

Will the program be considered a Professional Licensure Program based on the following definition: **Yes** ☐ **No** ☒

Professional Licensure Program: As defined in federal regulations, an instructional program that is designed to meet educational requirements for a specific professional license or certification that is required for employment in an occupation or is advertised as meeting such requirements.

If *yes*, please explain:

Select the appropriate licensure body from the table below:

Choose an item.

Select the appropriate license from the table below:

Choose an item.

I. Professional Certification

Will students earn industry certifications while completing the degree or be prepared for industry certifications upon graduation?   **Yes** ☐ **No** ☒

If *yes*, please explain:

J. Admissions

Provide any additional admissions requirements beyond the institution's standard admissions process/policies for this degree level. Include prerequisites, prior degrees earned, etc.

N/A

K. Mode of Delivery

Provide the planned delivery format(s) of the program as defined in policy (i.e., in-person, online, hybrid). Please also note whether any program requirements can be completed through competency-based assessment.

The delivery format will be in-person and on-campus. Program requirements cannot be completed through competency-based assessment.

Can students complete the entire degree program through distance education (100% online) based on the following definition?   **Yes** ☐ **No** ☒

Distance Education: An academic program for which required instructional activities can be completed entirely through distance education modalities. A distance education program may have in-person requirements that are non-instructional (e.g., orientation, practicum).

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L. Instructional Site(s)

Provide the planned location(s) where the program will be delivered (i.e., main campus, satellite campus, off-campus site.) If the program will be offered at an off-campus site, provide the existing site name or submit an *Off-Campus Site Request* if new.

Main Campus

Will more than 50% of this program be offered at an off-campus site(s) **Yes** ☐ **No** ☒

If *yes*, which sites?

M. Industry Need

Using the federal **Standard Occupational Code (SOC) System**, indicate the top three occupational codes related to post-graduation employment from the program. A full list of SOCs can be found at https://www.onetcodeconnector.org/find/family/title#17. Please include the number and title for each SOC.

SOC 1 (**required**): 15-1221.00 Computer and Information Research Scientists

SOC 2 (**required**): 15-1252.00 Software Developers

SOC 3 (**required**): 15-0000.00 Computer and Mathematical Occupations

Briefly describe how the program fulfills a specific industry or employment need for the State of Alabama. As appropriate, discuss alignment with Alabama's Statewide or Regional Lists of In-Demand Occupations (https://www.ache.edu/index.php/policy-guidance/) or with emerging industries as identified by Innovate Alabama or the Economic Development Partnership of Alabama (EDPA).

Almost all industries can take advantage of the benefits of AI to optimize the resources utilized, streamline operations, and gain insights into industry trends. Manufacturing can be made more efficient, AI can automate repetitive office tasks to allow employees to focus on other aspects of their work, and data can be used by organizations to aid in decision-making.

The AlabamaWorks! Website displays over 1,000 jobs that list artificial intelligence in the job description. Not all of those jobs require an expert in AI, but instead, require knowledge of how to use AI. However, many of the jobs listed do require a trained expert in AI, such as AI Engineer, Software Engineer – Machine Learning Specialist, AI Solutions Architect, Modeling and Simulation Systems Engineer, AI Programming Manager, and Senior AI/ML Engineer. The median salary for these jobs is in the six-figure range.

According to Forbes (https://www.forbes.com/councils/forbestechcouncil/2024/03/12/the-future-of-work-embracing-ais-job-creation-potential/ visited Feb. 13, 2025), the future of the workforce will be transformed by AI, and while millions of jobs may be displaced by automation, new roles are expected to be created and increase the number of jobs. LinkedIn has reported a 74% annual increase in job listings for AI specialists, such as machine learning engineers and AI researchers.   The healthcare sector is expected to see an increase of almost 1 million jobs due to advancements in AI, and AI-driven positions in manufacturing, such as robotics, will be

in demand as well. According to Veritone (https://www.veritone.com/press-releases/veritone-analyzes-u-s-bureau-of-labor-statistics-april-2024-jobs-report-and-ai-job-growth/ visited Feb. 13, 2025), in April 2024, the U.S. Bureau of Labor Statistics observed a 32% increase in AI jobs year-over-year. A BS in AI at UA will help to fill the skills gap to align with the evolving job market.

N. Additional Education/Training

Please explain whether further education/training is required for graduates of the proposed program to gain entry-level employment in the SOC occupations selected above.

Further education/training is not required for graduates to gain entry-level employment.

O. Student Demand

Please explain how you projected the student enrollment numbers in the **Business Plan, Lines 24-27,** and provide evidence to substantiate student demand (i.e., surveys, enrollments in related courses, etc.).

As one illustration of the demand for the topic of AI among our current students, in the spring 2025 semester, we are offering 13 4xx-level courses, four of which are AI courses. During registration for the spring semester 2025, every AI course quickly filled to capacity, with students added to waiting lists.

A Qualtrics survey was distributed to our current BS students in the Computer Science department at The University of Alabama to indicate how likely they would have been to consider a BS in AI program. Of the 167 students who responded to the survey, 55% answered that they would be likely to consider a BS in AI. Of those who responded as likely to consider a BS in AI, 58% (91 students) indicated they were extremely likely to pursue the degree, and 42% (76 students) indicated they were somewhat likely to pursue the degree.

We note that in the 2024-25 AY, there were over 950 students enrolled in the BS in CS program. Assuming the respondents to our survey are representative of the BS in Computer Science student population, this equates to approximately 500 undergraduate students in Computer Science changing to AI or pursuing a dual degree in CS and AI. While there may be some concern that an AI degree may affect the viability of the BS in CS, based on the survey, there will still be a large enrollment of over 400 students in Computer Science, which is large enough for the viability of the Computer Science program.

It is also possible that the increase in the number of CS 4xx AI courses to 15 CS 4xx AI courses, as a result of the proposed degree, will help to maintain our enrollment in computer science. We do anticipate that due to the tremendous demand and interest in AI, additional students would attend UA and this program out of interest in the material and the lack of such programs regionally.

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II. Program Resources and Expenses

A. All Proposed Program Personnel

Provide all personnel counts for the proposed program.

Employment Status of Program Personnel		Personnel Information		
		Count from Proposed Program Department	Count from Other Departments	Subtotal of Personnel
Current	Full-Time Faculty	17	0	17
	Part-Time Faculty	1	0	1
	Administration	0	0	0
	Support Staff	0	0	0
**New To Be Hired	Full-Time Faculty	0	0	0
	Part-Time Faculty	0	0	0
	Administration	0	0	0
	Support Staff	0	0	0
		Personnel Total		**18**

Provide justification that the institution has proposed a sufficient number of faculty (full-time and part-time) for the proposed program to ensure curriculum and program quality, integrity, and review:

The department currently has eighteen full-time and one part-time faculty members qualified to teach the required courses. We have proposed the addition of two tenure-track faculty and two renewable contract teaching faculty, bringing the total to 18 faculty positions to support the degree program. Many of the listed courses are either required or elective options for our Computer Science and Cyber Security majors. The addition of new faculty will help reduce the student-to-faculty ratio in a department where this ratio is currently high.

Note: Include *any new funds* designated for compensation costs (faculty, administration, and/or support staff to be hired) in the **Business Plan, Line 7 - Personnel Salaries and Benefits**. Current personnel salary/benefits *should not be included* in the Business Plan.

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B. Proposed Faculty Roster*

Complete the following **Faculty Roster** to provide a brief summary and qualifications of current faculty and potential new hires specific to the program.

*Note: Institutions must maintain and have current as well as additional faculty curriculum vitae available upon ACHE request for as long as the program is active, but CVs are **not** to be submitted with this proposal.

Current Faculty			
1	**2**	**3**	**4**
CURRENT FACULTY NAME (FT, PT)	**COURSES TAUGHT** including Term, Course Number, Course Title, & Credit Hours (D, UN, UT, G, DU)	**ACADEMIC DEGREES and COURSEWORK** Relevant to Courses Taught, including Institution and Major; List Specific Graduate Coursework, if needed	**OTHER QUALIFICATIONS and COMMENTS** Related to Courses Taught and Modality(ies) (IP, OL, HY, OCIS)
Don Yessick (FT)	CSI for Majors (CS100, UN, 4 hours) Fall; Spring;	PhD in Computer Science, University of Alabama	IP
Matthew-Lane May (FT)	CSII for Majors (CS101, UN, 4 hours) Fall; Spring;	MS in Computer Science, University of Alabama	IP
Jennifer Watson (FT)	Foundations of AI (CS265, UN, 4 hours) Fall; Spring;	PhD in Instructional Technology, University of Alabama	IP
Alex Zhang (FT)	Database Management Systems (CS301, UN, 3 hours) Fall; Spring; X2	PhD in Computer Science, Old Dominion University	IP
Leslie Dixon (PT)	Computer Law & Ethics (CS237, UN, 3 hours) Fall; Spring;	JD, University of Alabama	IP
Bineet Ghosh (FT)	Computer Algorithms (CS470, UN, 3 hours) Fall; Spring;	PhD in Computer Science, University of North Carolina, Chapel Hill	IP
Jackey Gong (FT)	Data Science (CS451, UN, 3 hours) Fall;	PhD in Control Science and Engineering, Huazhong University of Science and Technology, China	IP
Monica Anderson (FT)	Intro Autonomous Robots (CS460, UN, 3 hours) Fall; Capstone Computing (CS495, UN, 3 hours) Spring;	PhD in Computer Science, University of Minnesota, Minneapolis	IP
Chris Crawford (FT)	Capstone Computing (CS495, UN, 3 hours) Fall; Brain Computer Interface (CS461, UN, 3 hours) Spring;	PhD in Computer Science, University of Florida	IP
Hongsheng He (FT)	Reinforcement Learning (CS484, UN, 3 hours) Spring;	PhD in Electrical and Computer Engineering, National University of Singapore	IP
Purushotham Bangalore (FT)	Data Structures and Algorithms (CS201, UN, 4 hours) Fall; Spring; HPC (CS481, UN, 3 hours) Fall;	PhD in Computational Engineering, Mississippi State	IP
Sudip Mittal* (FT)	AI Cyber Security (CS456, UN, 3 hours) Fall;	PhD in Computational Science, University of Maryland, Baltimore County	IP
Noorbakhsh Golilarz*(FT)	Computer Vision (CS463, UN, 3 hours) Fall;	PhD Electrical and Computer Engineering, Southern Illinois University	IP

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Current Faculty			
1	**2**	**3**	**4**
CURRENT FACULTY NAME (FT, PT)	**COURSES TAUGHT** including Term, Course Number, Course Title, & Credit Hours (D, UN, UT, G, DU)	**ACADEMIC DEGREES and COURSEWORK** Relevant to Courses Taught, including Institution and Major; List Specific Graduate Coursework, if needed	**OTHER QUALIFICATIONS and COMMENTS** Related to Courses Taught and Modality(ies) (IP, OL, HY, OCIS)
Roy Kaushik* (FT)	Deep Learning (CS454, UN, 3 hours) Spring;	PhD in Computer Science, University of South Carolina	IP
Runlong Yu* (FT)	NLP (CS453, UN, 3 hours) Spring;	PhD in Data Science & AI, University of Science and Technology of China	IP
Mahmoud Mahmoud* (FT)	Big Data (C423, UN, 3 hours) Fall, Spring; AI (CS465, UN, 3 hours) Fall, Spring;	PhD in Electrical and Computer Engineering, Tennessee Tech	IP
Jiacheng Li (FT)	AI (CS465, UN, 3 hours) Fall, Spring; Data Science (CS451, UN, 3 hours) Spring; Social Media Data Analytics (CS455, UN, 3 hours) Fall;	PhD in Computer Science, University of Alabama	IP
Sinan Al Ani (FT)	Comp Foundations of ML (CS483, UN, 3 hours) Fall, Spring; Information Retrieval (CS452, UN, 3 hours) Spring;	PhD in Computer Science, University of Alabama	IP

Abbreviations: (FT, PT): Full-Time, Part-Time; (D, UN, UT, G, DU): Developmental, Undergraduate Nontransferable, Undergraduate Transferable, Graduate, Dual: High School Dual Enrollment
Course Modality: (IP, OL, HY, OCIS): In-Person, Online, Hybrid, Off-Campus Instructional Site

C. Equipment

Will any special equipment be needed specifically for this program?   Yes ☐ No ☒

If *yes*, list the special equipment and include all special equipment costs in the **Business Plan, Line 8**:

D. Facilities

Will new facilities or renovations to existing infrastructure be required specifically for the program? Yes ☐ No ☒

If *yes*, describe the new facilities or renovations and include all *new* facilities and/or *renovation* costs in the **Business Plan, Line 9**:

E. Assistantships/Fellowships

Will the institution offer any assistantships specifically for this program?   Yes ☐ No ☒

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If *yes*, provide the number of assistantships to be offered and include all *new* costs for assistantships in the ***Business Plan, Line 10.***

Explain the function of the Assistantships (i.e., teaching, research, etc.)?:

F. Library

Will any **additional** library resources be purchased to support the program?   Yes ☐ No ☒

If *yes*, briefly describe new resources to be purchased and include the cost of new library resources in the ***Business Plan, Line 11***:

G. Accreditation Expenses

If programmatic accreditation was indicated above, please include all accreditation costs in the ***Business Plan, Line 12,*** and itemize and explain below:

Yes. The program will be reviewed and accredited by ABET. The most recent review required a fee of $11,100.

H. Other Costs

Please include all other costs incurred with program implementation, such as marketing or recruitment, in the ***Business Plan, Line 13,*** and explain below:

III. Program Revenue and Funding

A. Tuition Revenue: Please describe how you calculated the tuition revenue that appears in the ***Business Plan, Line 17***. Specifically, did you calculate using cost per credit hour or per term? Did you factor in differences between resident and non-resident tuition rates?
Note: Tuition Revenue should be proportional to total enrollment.

In alignment with UA's student body in the fall semester of 2024, we expect 58% of students enrolled to pay non-resident tuition. The tuition revenues are calculated to a per year total of $6,732,547 by year 5 ($11,096,235 by year 7) and averaging $1,346,509 per year over the first five years as indicated in more detail in the attached excel sheet.

B. External Funding: Will the proposed program require external funding (*e.g.*, Perkins, Foundation, Federal Grants, Sponsored Research, etc.)?   Yes ☐ No ☒

If *yes*, please include all external funding in the ***Business Plan, Line 18*** and explain specific sources and funding below:

C. Reallocations: For each year, will tuition revenue and/or external funding cover projected expenses?   Yes ☐ No ☒

If *not*, budget reallocation may be required. Please include all reallocations in the **Business Plan, Line 19,** and describe below how your institution will cover any shortfalls in any given year.

IV. Curriculum Information for Proposed Degree Program

- **Complete the Curriculum Plan Excel Sheet**

- Does the program include any concentrations?   **Yes** ☐ **No** ☒

If yes, provide an overview and identify these courses in the *Electives/Concentrations/Tracks* on the curriculum plan.

ACADEMIC DEGREE PROGRAM PROPOSAL SUMMARY

INSTITUTION:	University of Alabama		
PROGRAM NAME:	Artificial Intelligence	**CIP CODE:**	11.0102
SELECT LEVEL:	UNDERGRADUATE (BACHELOR'S)		

ESTIMATED *NEW* EXPENSES TO IMPLEMENT PROPOSED PROGRAM

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	TOTAL
FACULTY	$0	$0	$0	$0	$0	$0	$0	$0
ADMINISTRATION/STAFF								$0
EQUIPMENT								$0
FACILITIES								$0
ASSISTANTSHIPS/FELLOWSHIPS								$0
LIBRARY								$0
ACCREDITATION AND OTHER COSTS				$11,100				$11,100
TOTAL EXPENSES	$0	$0	$0	$11,100	$0	$0	$0	**$11,100**

NEW REVENUES AVAILABLE FOR PROGRAM SUPPORT

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	TOTAL
REALLOCATIONS								$0
EXTERNAL FUNDING								$0
TUITION + FEES	$374,030	$872,738	$1,371,445	$1,994,829	$2,119,506	$2,119,506	$2,244,182	$11,096,235
TOTAL REVENUES	$374,030	$872,738	$1,371,445	$1,994,829	$2,119,506	$2,119,506	$2,244,182	**$11,096,235**

ENROLLMENT PROJECTIONS
Note: "New Enrollment Headcount" is defined as unduplicated counts across years.

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	AVERAGE
FULL-TIME ENROLLMENT HEADCOUNT	No data reporting	35	55	80	85	85	90	**71.67**
PART-TIME ENROLLMENT HEADCOUNT								**0.00**
TOTAL ENROLLMENT HEADCOUNT		35	55	80	85	85	90	**71.67**
NEW ENROLLMENT HEADCOUNT		20	20	25	25	25	30	**24.17**
Validation of Enrollment			YES	YES	YES	YES	YES	

DEGREE COMPLETION PROJECTIONS
Note: Do not count Lead "0"s and Lead 0 years in computing the average annual degree completions.

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	AVERAGE
DEGREE COMPLETION PROJECTIONS	No data reporting	0	0	15	20	25	25	**21.25**

Undergraduate Curriculum Plan

Undergraduate Curriculum Checklist:
1. Overview ☑
2. Components ☑
3. Options (as required) ☐

1. Undergraduate Overview

Enter the credit hour value for all applicable components (N/A if not applicable).
The credit hours MUST match the credit hours in the Curriculum Components table.

Curriculum Overview of Proposed Program	
Credit hours required in **General Education**	38
Credit hours required in **Program Courses & Required Electives**	69
Credit hours in **Program Options (concentrations/specializations/tracks)**	0
Credit hours in **Free Electives**	11
Credit hours in required **Capstone/Internship/Practicum**	3
Total Credit Hours Required for Completion:	**121**

Maximum number of credits that can be transferred in from another institution and applied to the program:	12
Intended program duration in semesters for full-time students:	8
Intended program duration in semesters for part-time students:	N/A

	YES	NO
Does the program require students to demonstrate industry-validated skills, specifically through an embedded industry-recognized certification, structured work-based learning with an enployer partner, or alignment with nationally recognized industry standards?:	☐	☑

If **yes**, please explain (i.e., number of hours required, etc.):

	YES	NO
Does the program inlcude any concentrations/ tracks/ options?	☐	☑

If **yes**, please explain (i.e., define):

2. Undegraduate Components

Please provide all course information as indicated in the following table. Indicate new courses with "Y" in the associated column. If the course includes a required work-based learning component, such as an internship or practicum course, please indicate with a "Y" in the WBL column.

Insert Additional Rows as Needed				
Institution:	University of Alabama			
Program Name:	Artificial Intelligence			
Program Level:	UNDERGRADUATE (BACHELOR'S)			
Curriculum Components of Proposed Program				
Course Number	**Course Name**	**Credit Hours**	**New? (Y)**	**WBL? (Y)**
General Education Courses		**38-43**		
UA 101	Legends	1		
ENGR 101	The World of Engineering	1		
EN 103	Advanced English Composition	3		
CS 247	Cyber Law and Ethics – HU designated	3		
	Humanities/Fine Arts/Languages	3-8		
	Literature	3		
	History/Social Behavioral	3		
	History/Social Behavioral	3		
	History	3		
	US Global Citizenship	3		
MATH 125	Calculus I	4		
	NS Elective	4		
	NS Elective	4		
Program Courses and Required Electives		**69**		
ENGR 104	Fundamentals of Engineering	3		
CS 100	CSI for Majors	4		
CS 101	CSII for Majors	4		
CS 201	Data Structures and Algorithms	4		
CS 265	Fundamentals of AI	4	Y	
CS 301	Database Management Systems	3		
CS 423	Big Data	3		
CS 465	Artificial Intelligence	3		
CS 470	Algorithms	3		
CS 483	Computational Foundations of Machine Learning	3		
MATH 126	Calculus II	4		
MATH 227	Calculus III	4		
MATH 237	Introduction to Linear Algebra	3		
MATH 301	Discrete Mathematics	3		
MATH 355	Probability	3		
GES 255	Engineering Statistics I	3		
	Cognitive/Neuroscience Elective	3		
Program Electives (choose 4 courses = 12 hours)				
CS 451	Data Science	3		
CS 452	Information Retrieval	3		
CS 453	Natural Language Processing	3	Y	

CS 454	Deep Learning	3	Y	
CS 456	AI for Cybersecurity	3	Y	
CS 460	Introduction to Autonomous Robots	3		
CS 461	Brain Computer Interface (BCI)	3		
CS 463	Computer Vision	3		
CS 481	High Performance Computing	3		
CS 484	Reinforcement Learning	3		
Program Options (enter total credit hours from all options below)		**0**		
Free Electives		**6-11**		
	Free electives	6-11		
Capstone/Internship/Practicum		**3**		
CS 49511	Capstone Computing (AI Section)- **W designation if needed**	3		
Total Credit Hours Required for Completion:		**121**		

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New Program Proposal

Assessment plan for the Artificial Intelligence BS Program

The strength of our proposed program is due to the combination of computer science foundational courses and AI courses. As such, the student learning outcomes (SLOs) listed below are a combination of those required by our ABET CAC accreditation board for a computing program and those we created for an AI program. When the ABET CAC board implements SLOs for an AI program, which we anticipate occurring in the near future, we will update our SLOs to be consistent with the ABET CAC SLOs. However, we do expect the SLOs below to be similar to those of ABET CAC for an AI program.

Graduates of the BS in Artificial Intelligence program will have:

Outcome 1: An ability to analyze complex computing problems and apply principles of computing to develop appropriate solutions.
This outcome will be assessed by the performance in the computing foundational course CS470 Algorithms.

Outcome 2: An ability to design, implement, and evaluate AI-based computing solutions that meet specified requirements.
This outcome will be assessed by the performance in the CS 465 Artificial Intelligence.

Outcome 3: An ability to communicate effectively in a variety of professional contexts.
This outcome will be assessed by the performance in the course CS495 Capstone Computing.

Outcome 4: An ability to recognize and uphold professional, ethical, legal, and social responsibilities in the development and deployment of AI systems.
This outcome will be assessed by the performance in the course CS495 Capstone Computing.

Outcome 5: An ability to collaborate effectively as a member or leader of a team engaged in AI related activities.
This outcome will be assessed by the performance in the course CS495 Capstone Computing.

Outcome 6: An ability to apply foundational concepts in artificial intelligence to solve real-world problems.
This outcome will be assessed by the performance in the AI CS Computational Foundations of Machine Learning and CS 495 Capstone Computing.

The data collection component of our program's assessment process is course-based. Specifically, data points relative to each of the student outcomes are collected in several upper-division courses. These individual data points include:
- Answers to specific questions on an exam that directly relate to that outcome,
- Answers to specific homework questions that directly relate to that outcome,
- Presentations made by students in these courses (evaluated using a rubric),
- Written artifacts generated by students in the courses (evaluated using a rubric), and
- A specific component of a larger assignment/project that students complete.

New Program Proposal

The individual faculty member teaching a course where student outcome assessment data is collected generates a report that contains all the specific assessment measures used in the course, as well as average student performance for that measure as observed in the course. In addition, the instructor will normally provide his/her feedback regarding any differences noticed between actual student performance and the instructor's perception of how students should have performed. This set of reports is submitted to the program's assessment committee.

The department's Assessment Review Committee then combines the data from the individual course reports, producing a single overall performance level for each student outcome. This allows the committee to develop a program-wide perspective on how students are performing with respect to each of our student outcomes.

It is noted that the data collection process ensures that data is only collected from students in the appropriate major (either computer science, AI, or cyber security). For courses in which students from multiple majors are enrolled, this data must be assessed separately, allowing for three separate reports to be generated. To help ensure the integrity of all of our computer science, AI and cyber security assessment processes, the department provides faculty members doing course assessment with a listing that identifies the major of each student enrolled in the course. This list is distributed at the beginning of the semester and again at the end of the semester. Faculty are also able to view the major of each student via the institution's Blackboard system.

A course assessment report contains the following for each outcome.
- For each characteristic measured
    - For each measurement obtained
        - The actual question that was asked, and where (exam, homework, etc.).
        - All the students' individual performance levels for that question, using a rubric.

Instructor's opinion why the levels are better/worse than anticipated.

To assess the data points (measurements) that are collected, the department established a uniform scoring metric (shown below) for measures #1 - #6. For each student submission regarding a given data point:
1) The grade received is mapped to the level below as determined by the faculty member responsible for measuring the performance of the students.
2) An overall average level is computed for that particular assignment, exam question, etc.
3) An overall level for that measure is then computed for the course.

Our threshold is 70% of the students to perform with a level of 3 or above.

Score	Description
4	Demonstrates a complete and accurate understanding of the major (important) concepts
3	Applies appropriate strategy or concepts without significant errors
2	Displays an incomplete understanding of the important concepts and has some notable misconceptions; makes a number of errors when performing important strategies or skills but can complete a rough approximation of them

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New Program Proposal

1	Demonstrates severe misconceptions about important concepts; makes critical errors
NA	Did not complete and/or did not make an honest attempt at completing

The program's Review Assessment Committee meets annually, during the summer months, to analyze this data. This committee is composed of faculty members who are actively engaged in our continuous improvement process, including individuals who are knowledgeable regarding accreditation activities. The committee has access to previous years' results and knows the program's established expectations for student performance (70% with a level of 3 or above). The assessment committee generates a written report to the faculty that outlines both the results of this year's assessment process and a set of recommendations for the faculty to consider regarding program improvement.

There are three distinct deliverables generated annually by our program's assessment process. These are:

- A set of individual course reports that contain the raw assessment data collected throughout the year for all outcomes.
- An assessment committee report that provides a program-wide perspective of how students are doing with respect to each of our stated outcomes, as well as recommendations regarding potential program improvements.
- Minutes of the faculty meeting(s) where the assessment committee report is presented and discussed. These minutes capture any program improvements enacted by the faculty based on this assessment report, or an acknowledgement by the faculty that no program changes are needed based on the information presented.

This information is maintained in a shared UA Box folder that is accessible to all faculty members in the department. The folder contains information from the current year as well as past years

Outcomes 1, 2, and 6
When measuring student performance with respect to outcomes 1, 2, and 6, direct measures of student performance are used. These data points come from exam questions, homework problems, and other student deliverables that directly address the specific outcome. The faculty member then maps these levels to the standard rubric used by our assessment process (levels from 1 to 4) as described previously.

Outcomes 3, 4, 5

When measuring student performance with respect to outcomes 3, 4, and 5, a set of rubrics are used and described below. These rubrics were developed by the faculty to provide a meaningful assessment of student performance in these areas. The resulting levels based on the rubrics are then mapped from 1 to 4 as described previously.

Outcome 3 – Assessed in CS 495 in two primary areas: presentations and writing assignments. The presentations are related to their group projects. Each team member was required to participate in every presentation and have a speaking role. Failure to participate resulted in penalties according to the grading rubric. All presentations were evaluated by two professors and one graduate student, and the levels were averaged. Writing assignments were individual

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New Program Proposal

efforts, and all writing assignments were graded by an instructor from the Department of English to ensure consistency.

Presentation Rubric

Presentation Content – Assessed as a group
__/1 Title slide w/ project name and team members names/pictures incl all URLs (code, project, documentation if different)
__/1 Reminder of the project focus
__/4 All high-level project functionality implemented
__/2 Significant items on backlog
__/6 Live demo of features (each person should demonstrate his contribution)

/4					
	Graphics	Student uses superfluous graphics or no graphics	Student occasionally uses graphics that rarely support text and presentation.	Student's graphics relate to text and presentation.	Student's graphics explain and reinforce screen text and presentation.
/4	**Mechanics**	Student's presentation has 4+ spelling errors and/or grammatical errors.	Presentation has three misspellings and/or grammatical errors.	Presentation has no more than two misspellings and/or grammatical errors.	Presentation has no misspellings or grammatical errors.
/14	**Organization**	Audience cannot understand presentation because there is no sequence of information.	Audience has difficulty following presentation because student jumps around.	Student presents information in logical sequence which audience can follow.	Student presents information in logical, interesting sequence which audience can follow.

Presentation skills/discussion of contribution – Assessed as Individuals (8 points of the maximum of 30 points)

Elocution	Student mumbles, incorrectly pronounces terms, and speaks too quietly for students in the back of class to hear.	Student's voice is low. Student incorrectly pronounces terms. Audience members have difficulty hearing presentation.	Student's voice is clear. Student pronounces most words correctly. Most audience members can hear presentation.	Student uses a clear voice and correct, precise pronunciation of terms so that all audience members can hear presentation.
Reflection/ Contribution	Student is uncomfortable with describing	Student does not have grasp of how his/her work	Student can articulate relationship to	Contribution is **significant**, well-articulated, and can

New Program Proposal

	contribution and can answer only rudimentary questions. Contribution is **not significant.** Reflection is not insightful.	contributes to the project. Student cannot relate contribution to project goals. Contribution is **minor**. Reflection is shallow.	project goals. Contribution is **reasonable**. Reflection demonstrated meta level reasoning about development process and interaction with sponsor.	be related to the project focus. Reflection demonstrated meta level reasoning about development process and interaction with sponsor.
Eye Contact	Student reads all of report with no eye contact.	Student occasionally uses eye contact, but still reads most of report.	Student maintains eye contact most of the time but frequently returns to notes.	Student maintains eye contact with audience, seldom returning to notes.

Writing Assignment Rubric

Topic	Dimension
Research	• Scholarly sources • Recent scholarly sources • Use of sources
Evidence	• Accuracy • Support • Counter arguments • Ethical analysis (expanded in the next section) • Legal analysis
Communicates purpose	• Statement of objective • Shows awareness of main idea • Topic focus
Organization	• Structure • Coherence • Sections • Paragraphs • Introduction/conclusion
Mechanics	• Sentence structure (grammar, spelling, structure) • Paraphrasing • Appearance (layout, etc.) of paper / references

Outcome 4 – Assessed in CS 495 via the writing assignment. The writing assignment addresses the content related to professional responsibilities and ethics in the context of an AI societal problem.

Rubric
1. Defines a problem where technology can provide a solution
2. Provides insight into the impact of technology on a specific group
3. Presents more than one perspective to the problem
4. Articulates the responsibilities of technology providers
5. Presents the ethical considerations of providing the solution

Level 4- Exemplary response that considers multiple factors
Level 3-Good answer that provides a salient point
Level 2-Answer identifies a reasonable consideration but could be more specific or would benefit from clarification
Level -Answer does not provide insight into this problem/solution feature

Outcome 5 – Assessed in CS 495 in two primary areas: presentations and a semester-long team project.

Presentation Assignments
For Outcome 5, the presentations are intermediate deliverables for their group projects. The grading rubric for the presentations includes a teaming component (this is shown in the rubrics of Outcome 3 but is the primary source for assessment in Outcome 5). The presentation assignment team levels below are the same as levels from the Team component of the rubric.

Project Assignments
In addition to the team project presentations, each team and project are evaluated on the progress, quality, and direction of their term projects at intermediate stages, corresponding to three sprints of an agile process. The evaluation rubric for the project intermediate deliverables includes levels for team participation, as indicated below:

- Project backlog/ Sprint Planning (10)
- Scrum meetings (20)
- Sprint review and retrospective (10)
- Project source code and test cases (60):
    - Source code/ Project demo (20)
    - Frequency of commits (20)
    - Quantity of test cases for Sprints 2 and 3 only (10)
    - Spread/Quality of test cases for Sprints 2 and 3 only (10)

Curriculum Map – BS in AI

Course	SLO#1	SLO#2	SLO#3	SLO#4	SLO#5	SLO#6
CS 101 CS II for Majors	I					

New Program Proposal

CS 201 Data Structures & Algorithms						
CS 470 Algorithms						
CS 265 Fundamentals of AI	R	I			I	I
CS 301 Database Management Sys		R			R	
CS 247 Cyber Law & Ethics			I	I		
CS 483 Machine Learning	M, A					R
CS 465 Artificial Intelligence		M, A	R	R	R	M, A
CS 495 Capstone Computing			M, A	M, A	M, A	

Where I indicates content is introduced, R indicates reinforced, M indicates content mastered and A indicates content assessed.

University of Alabama System®

Board Rule 502
Notice of Pending Proposal (NPP) for a New Program of Instruction
(To be completed by the Provost's Office)

1. Institution:

☑ UA   ☐ UAB   ☐ UAH

Please select more than one institution for cooperative, joint, and shared degree programs.

2. Date of NPP Submission (mm/dd/yyyy): 05/05/2025

3. Contact Information

Institutional Contact Person: Carmen Coleman
Telephone: 205-348-3439
Email: crjones18@ua.edu

4. Program Identification

Program Name: Artificial Intelligence
Degree Nomenclature: Bachelor of Science (B.S.)

5. 6-digit CIP Code: 11.0102

6. Program Mode of Delivery

Provide the planned delivery format(s) (i.e., in-person, online, hybrid) of the program along with the planned location(s) at which the program will be delivered (i.e., on-campus and/or at specific off-campus instructional site(s)). Please also note whether any program requirements can be completed through competency-based assessment.

☑ In-person   ☐ Online   ☐ Hybrid

☑ On-campus   ☐ Off-campus   ☐ Competency-based

☐ Other, please describe:

7. Select a meeting for Board consideration:

○ April 11-12, 2024

○ June 6-7, 2024

○ September 12-13, 2024

○ November 7-8, 2024

○ February 6-7, 2025

○ April 3-4, 2025

○ June 5-6, 2025

○ September 11-12, 2025

◉ November 6-7, 2025

○ February 5-6, 2026

○ April 2-3, 2026

○ June 4-5, 2026

8. Is the proposed academic degree program currently listed on your campus Three- Year Academic Program Planning Report that is annually submitted to the Board of Trustees?

◯ Yes

◉ No

If no, please explain.

When our thee-year academic plan was submitted, the profound impact of AI on our world was just beginning. Since then, there has been a tremendous increase in demand by students and industry to expand our efforts in AI, including creating new AI courses and degrees, and expanding our research in AI. We have also received the encouragement of the College and University to expand our footprint in the area of AI, including new faculty hires and the creation of the ALA-AI Center. As such, we feel we our department will now have the resources to offer such a degree.

This proposal will be added to the 2025-2028 three-year academic plan.

9. Provide a brief description of the program.

Artificial Intelligence (AI) is rapidly transforming industries, increasing productivity, and redefining how we interact with technology. As AI continues to evolve, the demand for professionals with a strong foundation in computer science and AI is growing significantly. The proposed Bachelor of Science in Artificial Intelligence (BS in AI) at The University of Alabama will meet this demand by offering students a comprehensive, computation-centric education grounded in computer science. Unlike broader or introductory programs, this degree emphasizes core technical skills—such as programming, algorithms, databases, and computational theory—essential for careers in AI. It also integrates interdisciplinary study in fields like neuroscience and cognitive science to prepare students for real-world applications of AI across diverse industries.

The program builds on the growing interest in AI among current computer science majors and aims to keep the department competitive by attracting top students and producing graduates who are highly marketable. Advanced coursework in machine learning, big data, and AI theory, along with specialized electives, will enable students to tailor their education to career goals. The BS in AI will contribute to workforce development in Alabama by preparing graduates for roles such as machine learning engineer, data scientist, and AI specialist in healthcare, manufacturing, and transportation. By grounding AI education in computer science, this program empowers students to lead in a field poised to shape the future.

10. Relationship of program to other programs within the institution.

10.1. How will the program support or be supported by other programs within the institution?

Courses and resources are shared with the Computer Science BSCS and Data Science BS. The department also supports related graduate programs in Computer Science MSCS, Computer Science PhD, and a proposed Artificial Intelligence MS.

10.2. Will this program replace any existing program(s) or specialization(s), option(s) or concentration(s) within existing programs?

○ Yes

◉ No

If yes, please explain:

11. If this program is similar or duplicative of any other programs in the system or the state, please give your rationale for program duplication.

An MS in AI Engineering is offered at Auburn University, but is it not offered at the undergraduate level.

12. Do you plan to explore possible program collaboration with other institutions? Please explain.

Not at this time, but we will consider program collaboration in the future.

13. Please describe the need and/or level of student demand for this program.

A Qualtrics survey was distributed to our current BS students in the computer science department at The University of Alabama to indicate how likely they would have been to consider a BS in AI program. Of the 167 students who responded to the survey, 55% answered they would be likely to consider a BS in AI. Of those who responded as likely to consider a BS in AI, 58% (91 students) indicated they were extremely likely to pursue the degree and 42% (76 students) indicated they were somewhat likely to pursue the degree.

As a demonstration of the demand for the topic of AI among our current students, every AI course for spring semester 2025 quickly filled to capacity during registration with students added to waiting lists. The majority of CS4xx courses that were not AI courses did not fill to capacity.

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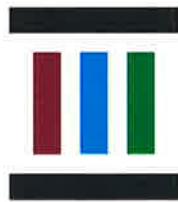
New Program Proposal Supplement

In addition to the items ACHE has requested for program proposals, please include the following additional items when developing and submitting academic program proposals to the System Office and the Board of Trustees for approval.

1. Institution:

☑ UA ☐ UAB ☐ UAH

Please select more than one institution for cooperative, joint, and shared degree programs.

2. Program Identification
Program Name: Artificial Intelligence
Degree Nomenclature: B.S.
Date of NPP Submission: 4/23/2025

3. Six-digit CIP Code: 11.0102

4. Executive Summary (not to exceed two pages)

The proposed Bachelor of Science in Artificial Intelligence (BS in AI) at The University of Alabama is designed to address the growing demand for AI expertise in both industry and research. As artificial intelligence continues to transform industries and drive technological innovation, the need for highly skilled professionals has expanded significantly. At the same time, our department has seen a sharp increase in student interest in AI-related coursework. To remain competitive and attract top-tier students, we must broaden our degree offerings. Establishing a BS in AI within the Department of Computer Science will provide students with the comprehensive knowledge and skills needed to excel in this rapidly evolving field.

Rooted in the discipline of computer science, AI draws on both theoretical foundations and applied methodologies. The BS in AI program offers a rigorous, computation-centric curriculum distinct from programs that provide only a surface-level overview of AI. The 121-credit-hour program integrates core computer science courses with advanced AI topics, expanded mathematics requirements, and interdisciplinary coursework in areas such as neuroscience and cognitive science. Students will begin with foundational courses in programming, data structures, algorithms, and databases, then progress to upper-level courses in machine

1

learning, big data, and mathematics for AI. Elective options allow students to explore specialized AI topics in greater depth.

In addition, the program will offer experiential learning opportunities through collaboration with the Alabama Center for the Advancement of Artificial Intelligence (ALA-AI). Under the direction of Dr. Jiaqi Gong, students will have the opportunity to engage in senior design and class projects in partnership with ALA-AI, working alongside faculty from various disciplines across the University. These interdisciplinary experiences will further strengthen students' analytical, technical, and collaborative skills.

The introduction of the BS in AI will also support workforce development in Alabama by producing AI-literate graduates equipped to meet the needs of growing and emerging industries. Program graduates will be prepared for careers in machine learning, data science, AI security, robotics, and AI applications in healthcare, among others. By combining a solid computer science foundation with focused expertise in artificial intelligence, the BS in AI will prepare students for impactful careers and contribute to technological advancement both within the state and beyond.

5. **Steps taken to determine if other UA System institutions might be interested in collaborating in the program.**
Although we have not taken any steps to determine if other UA system institutions might be interested in collaborating, we will consider doing so in the future.

6. **Summary of other campus comments, internal to the UA System or external (if any), regarding your plans for developing this program. Please include substantive feedback from the pre-proposal process.**

Feedback was received from our Computer Science Industrial Advisory Board. Members of our board were overwhelmingly supportive of the degree, and several members provided curriculum suggestions as well as letters of support. In addition, the Director of the Alabama Center for the Advancement of Artificial Intelligence received positive feedback regarding an BS in Artificial Intelligence from center faculty and researchers in a myriad of fields, such as physics, healthcare, community science, bioscience, and statistics.

7. **Describe the process that will be used by your institution for routine internal and/or external program review.**

During the post-implementation period, the department will monitor enrollment, new enrollments, and the number of graduates each year. Additionally, the department will track the post-graduation outcomes of its graduates. Annually, the department will report on student learning outcomes as outlined in question 8.

At The University of Alabama, all departments undergo an academic program review (APR) approximately every eight years. This process includes a departmental self-study, an on-site visit by a review team comprising internal and external members, and the development of a strategic action plan by the department, informed by the review team's recommendations.

8. Describe the process that will be used in assessing program outcomes (to include student learning outcomes).

Student Learning Outcomes:
Graduates of the BS in Artificial Intelligence program will be able to:

1. Analyze complex computing problems and apply principles of computing to develop appropriate solutions.

2. Design, implement, and evaluate AI-based computing solutions that meet specified requirements.

3. Communicate effectively regarding AI technologies, capabilities, and their broader implications.

4. Recognize and uphold professional, ethical, legal, and social responsibilities in the development and deployment of AI systems.

5. Collaborate effectively as a member of a team engaged in AI-related activities.

6. Apply foundational AI concepts to address and solve real-world problems.

Assessment of Student Learning Outcomes:
Student performance on Outcomes 1, 2, and 6 will be measured through direct assessment methods, including exam questions, homework assignments, and other deliverables that align with the specified outcomes. Faculty will map these scores to the standardized rubric outlined in the assessment process described at the end of the ACHE proposal form.

For Outcomes 3, 4, and 5, assessment will rely on rubric-based evaluations that are also detailed in the ACHE proposal. These outcomes emphasize communication, ethics, and teamwork, and will be assessed through presentations, group projects, and reflective assignments.

As noted above, the BS in AI program will be assessed using methods consistent with those employed for our accredited programs, ensuring a rigorous and continuous evaluation of student achievement and program effectiveness.

9. Other pertinent information, if any.

THE UNIVERSITY OF ALABAMA

Resolution

Granting Initial Approval of and Permission to Submit to the Alabama Commission on Higher Education (ACHE), a Proposal for a Bachelor of Science (B.S.) Degree in Artificial Intelligence (CIP Code 11.0102) in the Department of Computer Science in the College of Engineering

WHEREAS, there is an urgent and growing need for professionals with expertise in artificial intelligence (AI) to design innovative AI techniques, apply existing methodologies, and critically assess the impact of AI on society and industry; and

WHEREAS, the proposed undergraduate degree program is structured to provide a rigorous curriculum that equips students with essential technical knowledge and practical skills to succeed in the field of artificial intelligence, while also preparing them for advanced study at the graduate level; and

WHEREAS, graduates of this program will be well-prepared for a wide range of careers, including but not limited to AI Developer, Data Scientist, Machine Learning Engineer, Computer and Information Systems Manager, Data Analyst, Computer Vision Engineer, and Big Data Engineer; and

WHEREAS, employment opportunities for graduates span a broad spectrum of sectors, including healthcare, banking and financial services, e-commerce, manufacturing, automotive, government and military, pharmaceuticals, and agriculture; and

WHEREAS, by integrating training in both artificial intelligence and computer science, the program will prepare graduates with the expertise needed to meet the growing demand for AI professionals and to drive innovation and progress across multiple industries;

NOW, THEREFORE, BE IT RESOLVED by the Board of Trustees of The University of Alabama that it grants initial approval of and permission to submit to the Alabama Commission on Higher Education (ACHE) a Proposal for a Bachelor of Science (B.S.) degree in Artificial Intelligence (CIP Code 11.0102) in the Department of Computer Science in the College of Engineering at the University of Alabama.

September 24, 2025

Chancellor Sid Trant
The University of Alabama System
500 University Boulevard East
Tuscaloosa, Alabama 35401

Dear Chancellor Trant:

I am pleased to endorse the recommendation from Executive Vice President and Provost James Dalton, Associate Provost of Undergraduate Education Tiffany Sippial, and Dean of the College of Engineering Clifford Henderson for approval of the attached proposal for a Bachelor of Science (B.S.) degree in Artificial Intelligence (CIP Code 11.0102). The proposed undergraduate degree in Artificial Intelligence will provide students with a rigorous foundation in AI and computer science, preparing them with the technical expertise and practical skills needed to pursue advanced study or careers across sectors such as healthcare, finance, e-commerce, manufacturing, government, and more, while equipping them to innovate, apply methodologies, and evaluate the societal and industry impact of AI.

If you approve of this proposal, I would appreciate you forwarding this request to the Board of Trustees at your earliest convenience.

Sincerely,

Peter J. Mohler
President

Enclosure

c: Executive Vice President and Provost James Dalton
        Dean Tiffany Sippial
   Dean Clifford Henderson

September 20, 2025

President Peter J. Mohler
The University of Alabama
203 Rose Administration
Tuscaloosa, Alabama 35487

Dear President Mohler:

I fully support the recommendation from the Associate Provost of Undergraduate Education Tiffany Sippial, and Dean of the College of Engineering Clifford Henderson for approval of the attached proposal for a Bachelor of Science (B.S.) degree in Artificial Intelligence (CIP Code 11.0102). The proposed undergraduate degree in Artificial Intelligence will provide students with a rigorous foundation in AI and computer science, preparing them with the technical expertise and practical skills needed to pursue advanced study or careers across sectors such as healthcare, finance, e-commerce, manufacturing, government, and more, while equipping them to innovate, apply methodologies, and evaluate the societal and industry impact of AI.

If you are in agreement with this recommendation, I would appreciate your assistance in forwarding the request to the Chancellor at your earliest convenience.

Sincerely,
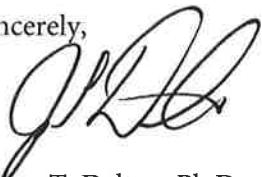
James T. Dalton, Ph.D.
Executive Vice President and Provost

Enclosure

c: Dean Tiffany Sippial
     Dean Clifford Henderson

September 10, 2025

To: Provost James Dalton
From: Dr. Tiffany A. Sippial, Associate Provost for Undergraduate Education
Subject: Letter of Support – Proposal for a New BS in Artificial Intelligence

Dear Provost Dalton,

I join Dean Cliff Henderson in recommending approval of the attached proposal for a new Bachelor of Science in Artificial Intelligence in the College of Engineering. This degree program responds to significant student demand and workforce needs in a rapidly expanding field, positioning The University of Alabama as a leader in undergraduate AI education.

The Undergraduate Council reviewed and recommended approval of this proposal at its September 10, 2025, meeting. We respectfully request that this item be forwarded for timely consideration at the next Board of Trustees meeting.

If you approve of this proposal, please forward this request to President Mohler at your earliest convenience.

Sincerely,

Sippial

Dr. Tiffany A. Sippial
Associate Provost for Undergraduate Education
Dean, Honors College
The University of Alabama
tsippial@ua.edu
205-348-5500

cc: Carmen Coleman, Academic Program Development Specialist, OAA

March 6, 2025

Dear Provost Dalton,

I am writing this letter to strongly support the initiative in the Department of Computer Science for the creation of a Bachelor of Science Degree in Artificial Intelligence. The degree will provide the knowledge required of skilled professionals to contribute to AI advancements, ensuring they are prepared for competitive careers in the field.

The proposed BS in AI degree will be housed in the Department of Computer Science at The University of Alabama. AI is fundamentally rooted in computer science due to the strong foundational and applied connection between AI and computer science. The proposed curriculum is computation-centric and consists of 121 credit hours, combining core computer science courses with core AI courses, along with courses in mathematics, engineering, and neuroscience and cognitive science. Students will also have the opportunity to focus on specialized topics through elective courses in AI, as well as collaborations between the students in this program and the Alabama Center for the Advancement of Artificial Intelligence on senior design projects and AI class projects. Currently, the only degree in AI offered in the state of Alabama most closely related to the proposed degree is the MS in AI Engineering at the graduate level. There are also plans to expand the use of the courses developed in this AI program to further broaden opportunities for other engineering students across the College who would benefit from exposure to and knowledge in AI topics.

The proposed degree will allow the Department of Computer Science to remain competitive and attract top students. By providing students with a strong computer science foundation and specialized AI knowledge, this program will contribute to the advancement of AI and its applications, both within the state and beyond.

I support the creation of this program.

Sincerely,

Clifford L. Henderson

Dr. Clifford L. Henderson
Dean of Engineering
The University of Alabama

THE UNIVERSITY OF ALABAMA®

Box 870200 | Tuscaloosa, AL 35487-0200 | 205-348-6400 | Fax 205-348-8573

Dalain Williams | 1918 Autry Court 76017 | dalain@dalain.com | 817-797-8900

March 3, 2025

To Whom it may concern,

As a proud alumnus of the University of Alabama and a member of the Computer Science Department's Advisory Board, I am writing to express my enthusiastic support for the proposed Bachelor of Science degree in Artificial Intelligence. This initiative is not only timely but also crucial for the University's continued leadership in technological innovation.

The recent approval of the Master of Science in Artificial Intelligence and the launch of the new Center for AI Research and Development are significant milestones. These achievements demonstrate the University's commitment to advancing AI education and research. However, to fully capitalize on these investments and to meet the growing demand for AI professionals, a robust undergraduate program is essential.

A Bachelor of Science in Artificial Intelligence will provide students with a foundational understanding of AI principles, algorithms, and applications. This program will equip them with the skills necessary to:

- **Contribute to the rapidly evolving AI industry:** The demand for AI talent is soaring across various sectors, including healthcare, finance, manufacturing, and technology. A dedicated undergraduate program will ensure that our graduates are well-prepared to fill these critical roles.
- **Drive innovation and research:** By introducing AI concepts at the undergraduate level, we will foster a pipeline of future researchers and innovators who can contribute to the advancements being made at the new Center for AI Research and Development.
- **Enhance the University's reputation:** A cutting-edge AI program will attract top-tier students and faculty, further solidifying the University of Alabama's position as a leader in computer science education.
- **Provide a strong foundation for the Masters program:** A well designed undergraduate program will prepare students to succeed in the newly formed masters program, and further strengthen that program.

The synergy between the new AI center, the newly formed Master's program, and a proposed Bachelor's program will create a comprehensive and cohesive educational pathway at the Capstone. This will ensure that students have an opportunity to receive a well-rounded AI education, from foundational principles to advanced research and applications.

I am confident that a Bachelor of Science in Artificial Intelligence will be a valuable addition to the University of Alabama's academic offerings. I strongly urge the College of Engineering and the to support and prioritize this initiative.

Thank you for your consideration.

Sincerely,

Dalain Williams
Advisory Board Member, Computer Science Department

Jordan & Skala Engineers

March 10, 2025

Dr. Monica Anderson Herzog
Associate Professor & Associate Department Head for Undergraduate Studies
The University of Alabama – College of Engineering
Department of Computer Science
3059 Cyber Hall
248 Kirkbride Ln.
Tuscaloosa, AL 35401

Subject: Letter of Support for AI Degree Programs

Dear Monica:

I am writing to express Jordan & Skala Engineer's strong support for the University of Alabama's initiative to introduce a bachelor's degree in Artificial Intelligence and to finalize its master's degree in the same field. As a Principal and Partner at Jordan & Skala Engineers, a leading MEP engineering firm with a strong focus on innovation, I have seen firsthand the increasing importance of AI in the Architecture, Engineering, and Construction industry.

Our firm is actively exploring AI applications to automate and enhance MEP design processes, including intelligent modeling in Revit, automated language generation for reports, and the identification of errors or inconsistencies in inspection reports and proposals. The integration of AI has the potential to significantly improve efficiency, reduce human error, and allow engineers to focus on higher-level problem-solving rather than repetitive tasks.

The demand for AI expertise in the engineering and construction industries is rapidly growing. Developing well-educated professionals with strong AI backgrounds will not only benefit firms like ours but also ensure the industry remains competitive and continues to evolve with emerging technologies. Having access to graduates with expertise in AI-driven automation, data analysis, and intelligent systems would be highly valuable as we navigate the digital transformation of engineering design and project execution.

We greatly appreciate our ongoing relationship with the University of Alabama, particularly through our sponsorship of Capstone Senior Design groups. We also look forward to having future AI students join us via the University's outstanding cooperative education program. Based on our positive experience with your students and faculty, we have no doubt that these AI degree programs will provide the industry with highly capable and forward-thinking professionals.

Please do not hesitate to reach out if we can provide additional support for this initiative. We look forward to continuing our collaboration and to seeing the impact that these AI programs will have on the industry.

Sincerely,

JORDAN & SKALA ENGINEERS, INC.

Ben Weissman, PE

cc: Andrew Smith, Aaron McEwin, James Brauer – Jordan & Skala Engineers