Degree Proposal
Bachelor of Science in Artificial Intelligence
Khoury College of Computer Sciences

Executive Summary

The Khoury College of Computer Sciences proposes to rename its existing Bachelor of Science in Data Science to the Bachelor of Science in Artificial Intelligence (BS-AI). This strategic renaming reflects the evolving demands of the technology industry and positions our graduates at the forefront of one of the most transformative fields in computing. The BS-AI program will be available as a standalone degree as well as one half of 25 combined degree programs.

The Bachelor of Science in Artificial Intelligence explores the full breadth of the field, from classical methods to modern, data-centric approaches. The program combines computer and data science with mathematics, statistics, and probability theory into an integrated curriculum designed to prepare students for careers in artificial intelligence. Students gain hands-on experience with machine learning algorithms, neural networks, reinforcement learning, and generative AI. Students develop a strong theoretical foundation in computational theory and algorithmic design. The curriculum emphasizes both the technical skills needed to build AI systems and the ethical considerations essential for responsible AI development. Through project-based learning and real-world applications, graduates emerge equipped to tackle complex problems across various industries.

Curriculum

The BS in Artificial Intelligence distinguishes itself through the following key features:

- **Comprehensive AI curriculum** – Moving beyond traditional data science, the program provides deep coverage of AI-specific topics including neural networks, reinforcement learning, generative AI, and natural language processing, while maintaining strong foundations in software engineering, mathematics, and statistics.
- **Ethics-integrated approach** – Rather than treating AI ethics as an afterthought, the program embeds ethical considerations throughout the curriculum, preparing graduates to build responsible AI systems that consider societal impact, fairness, and transparency.
- **Industry-aligned skill development** – The curriculum responds directly to employer demand for AI specialists by incorporating emerging technologies and methodologies, including large language models and agentic systems.
- **Experiential learning opportunities** – Students engage with real-world AI challenges through co-op placements with leading technology companies, research laboratories, and startups working on AI applications across healthcare, finance, transportation, and other sectors.

Resources

As a renaming of an existing degree program, the BS-AI will leverage the Khoury College's established infrastructure, faculty expertise, and industry partnerships. The existing Data Science faculty bring significant experience in machine learning, AI research, and related fields. The program will maintain the rigorous academic standards of the existing Data Science degree while evolving course content to reflect the broader scope and specialized focus of artificial intelligence. Regular curriculum reviews will ensure the program continues to align with industry needs and technological advances in this rapidly developing field.

Contribution to the University Mission

The proposed BS-AI degree aligns with three pillars in the Northeastern 2030 Academic Plan:

- **The power of experience maximized** – The program delivers experiential learning from the start through project-based coursework, co-op opportunities in AI-focused roles, and hands-on laboratory experiences with cutting-edge AI technologies.
- **Building on the power of diversity** – AI development requires diverse perspectives to address bias, fairness, and ethical considerations. The program emphasizes inclusive design principles and community-engaged partnerships that bring varied viewpoints to AI problem-solving.
- **Deepening our immersion in the world** – As AI transforms industries globally, the program prepares students to work in international contexts, understanding how AI applications and ethical frameworks vary across cultures and regulatory environments.