



## **BACHELOR OF SCIENCE IN ARTIFICIAL INTELLIGENCE AND PROMPT ENGINEERING (AIPE)**

### **What is BS in Artificial Intelligence and Prompt Engineering (AIPE)?**

The BS in Artificial Intelligence and Prompt Engineering (AIPE) is an interdisciplinary computing degree that prepares students to design, build and deploy intelligent systems with a special focus on prompt engineering; the art and science of communicating effectively with AI models. The curriculum integrates computer science, artificial intelligence, data science and human-centered design, giving students a strong foundation in both theory and hands-on practice.

Students begin with core computing and math courses such as College Algebra, Discrete Mathematics, Programming, Databases, Operating System and Data Structures. They then progress into more advanced AI and analytics courses including Introduction to Artificial Intelligence, Applied Business Statistics, Data Mining, Data Analysis and Business Modeling, Machine Learning for Business Modeling, Big Data Analytics and Data Visualization.

### **At the upper level, students complete a focused AIPE core that includes:**

- Ethics in AI
- Human-Computer Interaction (HCI)
- Deep Learning and Neural Networks
- Natural Language Processing (NLP)
- Reinforcement Learning
- Computer Vision
- Robotics Programming
- Prompt Engineering
- AIPE Capstone Project and Internship

### **Sub-disciplines covered include:**

- Machine Learning and Deep Learning
- Natural Language Processing and Prompt Engineering
- Computer Vision
- Reinforcement Learning and Robotics
- Data Science, Business Intelligence and Big Data Analytics
- Human-Computer Interaction and User Experience for AI Systems
- Cybersecurity foundations and Ethical/Responsible AI

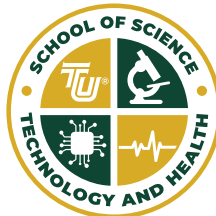
### **Graduates will develop competencies in:**

- Programming and software development for AI systems
- Designing, training and evaluating machine-learning and deep-learning models
- Crafting and optimizing prompts for large language models and other generative AI tools

- Working with databases, big data tools and data visualization platforms
- Designing user-centered AI interfaces and workflows
- Applying ethical and responsible-AI frameworks, including fairness, transparency and accountability
- Communicating complex AI results to technical and non-technical stakeholders

### **Why study BS in Artificial Intelligence and Prompt Engineering (AIPE)?**

- First of its kind in Ohio: AIPE at Tiffin University is described as the first program of its kind among Ohio higher-education institutions, giving students a distinctive credential in the state and region.
- Unique focus on Prompt Engineering: While many programs teach AI in general, TU's AIPE program specifically embeds prompt engineering throughout the curriculum, preparing students to build better human-AI interactions and to get high-quality, reliable output from advanced AI tools.
- Integrated AI + CS + Data Science: The curriculum combines computer science, AI, statistics, business intelligence and big data, enabling students to go beyond coding and become full AI problem-solvers and decision-support experts.
- Hands-on, project-based learning: Students work on applied projects in deep learning, NLP, computer vision, robotics programming and prompt engineering, culminating in a capstone project and internship that link



classroom learning to real organizations and real data.

- Ethics and Responsible AI: AIPE includes a dedicated Ethics in AI course and threads ethical, legal and societal topics through upper-level AI courses, preparing graduates to design trustworthy and responsible AI systems.
- Scholarships and workforce focus: Through initiatives like Choose Ohio First, AIPE is explicitly tied to Ohio's workforce needs, supporting students with scholarship opportunities and connecting them to in-demand tech careers where median regional tech salaries are over \$100,000.

Overall, TU's AIPE program offers a cutting-edge, industry-aligned and ethically grounded pathway into the rapidly expanding world of AI and prompt engineering.

## What can I do with a BS in Artificial Intelligence and Prompt Engineering (AIPE) degree?

**Graduates can pursue a wide range of AI-driven technical and hybrid roles. Example careers/areas include:**

1. AI Engineer / AI Solutions Architect
2. Machine Learning Engineer / Machine Learning Specialist
3. Data Scientist or Data Engineer
4. Computer Vision Engineer
5. Natural Language Processing (NLP) Engineer / Prompt Engineer / Prompt Engineering Specialist
6. Robotics Engineer / AI for Robotics Developer
7. Business Intelligence (BI) Developer / Big Data Engineer
8. AI Product Manager or AI Project Manager
9. Ethical AI Specialist / Data Ethicist / AI Policy Analyst
10. User Experience (UX) Designer for AI Systems / HCI Specialist

**Potential graduate-program pathways include, for example:**

- MS in Artificial Intelligence
- MS in Data Science or Analytics
- MS in Computer Science (AI / ML concentration)
- MS in Business Analytics or Business Intelligence
- MS in Human-Computer Interaction or UX Design



## How much will I earn with this degree?

Below are examples of in-demand careers related to AIPE and their most recent median annual wages from the U.S. Bureau of Labor Statistics (May 2024, where available):

- Software Developer (AI-focused developer): median annual wage: \$133,080
- Data Scientist: median annual wage: \$112,590
- Information Security Analyst (AI & cybersecurity intersection): median annual wage: \$124,910
- Computer and Information Research Scientist (AI Research Scientist): median annual wage: \$140,910
- Computer and Information Systems Manager (IT / AI Systems Manager): median annual wage: \$171,200
- Computer Network Architect (infrastructure for data-driven and AI systems): median annual wage: \$130,390
- Operations Research Analyst (optimization, modeling, and analytics roles related to AI/ML): median annual wage: \$91,290



## What is your pathway to graduation?

YEAR 1	
FIRST YEAR FALL	FIRST YEAR SPRING
MAT 181 - College Algebra	CDS 244 – Cyber Security
DLA 101 - Digital Literacy and AI Fluency	CST 155 - Introduction to Operating Systems
AIP 150 - Ethics in AI	MAT 273 - Applied Statistics
ENG 141 – Introduction to Rhetoric and Academic Writing	MAT 287 - Discreet Mathematics
DEC 100 - Engage	ENG 142 – Rhetoric and Academic Writing

YEAR 2	
SECOND YEAR FALL	SECOND YEAR SPRING
DEC 200 - Explore	CST 251 - Advanced Programming Concepts
CST 285 – Spreadsheet Applications & Data Analysis for Decision Making	CST 212 – Systems Analysis and Design
BIA 273 – Applied Business Statistics	AIP 250 – Human–Computer Interaction (HCI)
CST 280 – Database I	CST 380 – Database II
CST 201 – Introduction to Programming	BIA 280 – Introduction to Artificial Intelligence

YEAR 3	
THIRD YEAR FALL	THIRD YEAR SPRING
CST 360 – Data Structures	CST 365 – Computer Algorithms
BIA 299 – Data Mining for Decision Making	COM 130 – Introduction to Communication
BIA 300 - Data Analysis and Business Modeling	NAT 130 – Foundations for Healthy Living
BIA 400 – Machine Learning for Business Modeling	AIP 420 – Deep Learning and Neural Networks
DEC 300 - Connect	AIP 440 – Reinforcement Learning

YEAR 4	
FOURTH YEAR FALL	FOURTH YEAR SPRING
DEC 400 - Impact	AIP 460 – Capstone Project
BIA 410 – Data Visualization	AIP 470 – Internship
BIA 420 – Big Data Analytics	AIP 430 – Robotics Programming
AIP 445 – Natural Language Processing	AIP 450 – Computer Vision
Pick List Credit (Art/Cul/Eng/His/Phi)	AIP 455 – Prompt Engineering



# Stay on track!

## YEAR 1

### EXPLORE AND BUILD FOUNDATIONS

- Complete foundational courses in math, digital literacy and AI fluency, ethics, writing and introductory computing, including MAT 181, DLA 101, AIP 150, MAT 273, MAT 287 and CST 155.
- Meet with your academic advisor at least once per semester to confirm your four-year plan
- Join the AI & Robotics Club or similar organizations to begin building your AI network and project experience.
- Begin exploring AI-related careers, certifications and internships through career fairs, info sessions and employer talks.

## YEAR 2

### DEEPEN CORE AI AND COMPUTING SKILLS

- Complete intermediate coursework in programming, databases, systems, statistics, HCI and introductory AI, including CST 201, CST 280, CST 251, CST 212, BIA 273, BIA 280 and AIP 250.
- Start a small AI or data-related project you can showcase in a portfolio.
- Continue meeting with advisors and Career Services to refine your academic and career plan.
- Keep exploring internships, certifications and skill-building opportunities.

## YEAR 3

### SPECIALIZE AND PREPARE FOR INTERNSHIPS

- Complete advanced coursework such as Data Structures, Computer Algorithms, Data Mining, Data Analysis and Business Modeling, Machine Learning for Business Modeling, Deep Learning and Neural Networks and Reinforcement Learning.
- Apply for internships or co-ops in AI, data science, software development or analytics.
- Engage in at least one significant team project, class project, hackathon or research experience to strengthen collaboration and leadership skills.
- Continue building your resume, LinkedIn, GitHub and project portfolio.

## YEAR 4

### TRANSITION TO PROFESSION AND/OR GRAD SCHOOL

- Complete upper-level AIPE coursework, including Big Data Analytics, Natural Language Processing, Computer Vision, Robotics Programming, Prompt Engineering, the capstone project and internship, along with any remaining core or elective requirements.
- Finalize and present your capstone project, ideally tied to a real organization or applied problem.
- Work closely with Career Services and faculty mentors to secure full-time employment or prepare for graduate study before graduation.
- Use your internship, capstone and portfolio to demonstrate readiness for AI-related professional roles.