

# Tahmidul Ambia

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## EDUCATION

### Cornell University

*Bachelor of Arts in Computer Science*

Ithaca, NY

May 2025

**Relevant Courses:** Introduction to Database Systems; Data-Driven Web Applications; Theory of Algorithms; Data Structures and Functional Programming; Discrete Structures; Computer Systems Organization; Operating Systems

## WORK EXPERIENCE

### KTBYTE Computer Academy, Instructor and Curriculum Developer

Dec. 2022 - Present

- Taught Computer Science fundamentals to classes of 15+ students (ages 8–17) using Processing and Java.
- Developed 5+ interactive curriculum modules on OOP and data structures, with emphasis on algorithmic problem solving and real-world applications to support progressive skill development and ensure student proficiency.

### Cornell University Biomedical Devices, Backend Developer

Sept. 2023 - May 2025

- Built RESTful APIs using Express.js and mysql2 to support backend CRUD operations across 200+ user records.
- Designed and managed a MySQL schema of 9 interconnected tables with built-in data validation, error handling, and schema refactoring to improve reliability for the INFLUX application.
- Drove backend feature planning and design discussions through active participation in cross-functional team meetings and iterative development cycles.

### Outlier, Software Engineer for AI Training

May 2024 - Aug. 2024

- Improved AI model problem-solving accuracy by ~10% through the generation of 50+ advanced algorithmic prompts and injection of intentional bugs for model evaluation.
- Evaluated, refined, and provided constructive feedback on model outputs to improve reasoning quality and boost accuracy across language and STEM tasks, driving continuous model improvement.

## PROJECTS

### Fake News Predictor LLM

Aug. 2022 - Jan. 2023

- Developed a robust machine learning pipeline leveraging classical models such as Logistic Regression, Random Forest, and advanced NLP techniques with DistilBERT to predict fake news articles.
- Utilized Python libraries such as TensorFlow, PyTorch, and scikit-learn for preprocessing, feature extraction, and model training, achieving 99% validation accuracy and surfacing actionable insights into publisher-level trends.

### Interactive US Choropleth Map

Dec. 2021 - Jan. 2022

- Developed an interactive data visualization using D3.js, HTML, CSS, and JavaScript to analyze and compare educational and financial metrics across 3,000+ U.S. counties and 50 states.
- Engineered a scalable and modular codebase with dynamic TopoJSON integration, responsive color scales, and advanced interactivity (zooming, hover tooltips, and user-driven data selection features), enabling efficient rendering of large geographic datasets and real-time updates based on user input.

## CAMPUS INVOLVEMENT

### Zeta Psi, Cornell University, *President, and Social Chair*

Feb. 2022 - May 2025

- Managed a \$120,000 semesterly budget to organize, promote, and execute 30+ high-impact social and philanthropic events, ensuring effective allocation of resources and over 90% member engagement.
- Oversaw chapter operations, including organizing events with 200+ attendees, delegating responsibilities, coordinating logistics, and improving risk response compliance by 30% through strategic protocol development.

## SKILLS

**Software:** SQL, Python, Java, JavaScript, HTML, CSS, React.js, C++, OCaml, Git/GitHub, Microsoft Suite