Tahmidul Ambia

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EDUCATION

Cornell University   **Ithaca, NY**
Bachelor of Arts in Computer Science   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 9+ 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 Detector   **Jul. 2025 - Aug. 2025**
- Built a Flask powerd web app for news classification with a RESTful API to access 4 custom-trained models. Deployed on Hugging Face Spaces, allowing real-time use with an average response time under 2 seconds.
- Trained and tuned Logistic Regression, Gradient Boosting, Random Forest, KNN, and BERT models using scikit-learn and PyTorch on 57,560+ articles with text cleaning, TF-IDF features, and class balancing. Achieved 82.56% accuracy and reduced false positives by 15%.

Interactive US Choropleth Map   **May. 2025 - Jun. 2025**
- 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, HTML, TypeScript, Tailwind, React.js, Git/GitHub, Node.js, C++, Docker, Figma