AYUSH BHARDWAJ

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EDUCATION

University of Illinois Chicago **Expected: December 2025**

Bachelor of Science in Computer Science **GPA: 3.8/4.0**

Coursework: Advance Data Structures and Algorithms, Artificial Intelligence, Machine Learning, User Interface Design and Programming, Economics and Computation, Software Development, and Database Management Systems

Honors & Leadership: Dean's List (2022 – Present), Orientation Leader (2023), and Computer Science Ambassador (2024)

SKILLS

Programming Languages: Python, HTML, CSS, JavaScript, Java, R, C++, C, SQL, C#, TypeScript, and Golang

Software/Frameworks: React, Angular, Docker, Google Cloud Platform, AWS, TensorFlow, Django, and MySQL

WORK EXPERIENCE

Lead Web Developer **July 2023 – Present**

Engineering Administration at University of Illinois Chicago

- Created and managed UIC's engineering websites with 300+ subpages using WordPress, JavaScript, HTML, and CSS.
- Deployed Google Analytics 4 with Tag Manager, optimizing data analysis and boosting website traffic by 12%.
- Collaborated with marketing team to update content, fix deadlinks, and optimize data, reducing error rates by 7.9%.

Head Teaching Assistant (Advanced Data Structures and Algorithms) **January 2023 – Present**

College of Engineering at University of Illinois Chicago

- Mentored and debugged code for 800+ students over 6 semesters, boosting project completion rates by 3.7%.
- Led labs on important data structures to optimize time and space complexity, resulting in a 4% increase in exam scores.
- Graded exams, mock interviews, and projects and provided thorough feedback that improved overall scores by 9%.
- Coached students with Optiver, Motorola, and Allstate on 200+ projects, guiding them from development to debugging.

Web Developer **August 2022 – May 2023**

Education Department at University of Illinois Chicago

- Developed an e-portfolio website using WordPress, JavaScript, CSS, and MySQL including full-stack customization.
- Used Scrum and Agile methods with professors as clients, integrating feedback to meet academic and usability goals.

Computer Specialist **November 2022 – May 2023**

Richard J. Daley Library

- Configured UIC domain laptops, iPads, and other equipment with software as per requirements and tools for 300+ staff.
- Resolved technical issues on multiple systems, including network, HTTP requests, internet and troubleshooting.

PROJECTS

Tariffarm: Winner of WildHacks at Northwestern University **April 2025**

- Built a full-stack international trade website using Flask and React.js, enabling users to estimate import costs with real-time tariff data, dynamic Gemini API prompts, and interactive trade route maps powered by amCharts and Next.js.
- Engineered a custom BFS-based trade optimizer that evaluates both tariff costs and transit time across land, sea, and air routes. Visualized optimal paths on an interactive 3D map using Next.js and amCharts, enabling smarter trade decisions.

Super Health App: Winner of SparkHacks at University of Illinois Chicago **February 2024**

- Created a multi-module desktop health assistant in Python using Tkinter and SQLite, combining doctor search, prescription tracking, medication reminders, and mindfulness tools into one cohesive application.
- Demonstrated strong problem-solving by handling medication scheduling, content filtering, and database integration, which resulted in a fully working health assistant built during the 24-hour SparkHacks hackathon.

ChatNexus: Machine Learning (PyTorch, Transformers, Tokenization, Pickle Serialization) **July 2024**

- Developed a GPT-based character-level language model in PyTorch, implementing transformer blocks and multi-head attention to generate high-quality text predictions across large datasets with support for both CPU and GPU training.
- Implemented a data pipeline for OpenWebText, featuring parallel text extraction from compressed data, vocabulary construction, memory-efficient batch loading, and Pickle-based model outputs for reproducible training and inference.

KafNodeX: Backend (Go, Kafka, WebSockets, Prometheus, Gorilla Mux, Docker) **April 2025**

- Built a real-time Go API using Kafka and WebSockets to stream and process live data, supporting unique stream sessions, real-time client updates, and efficient message handling with safe and reusable Kafka producers/consumers.
- Added global rate limiting, API key security, and detailed Prometheus monitoring for live metrics; wrote full unit and integration tests to validate WebSocket communication, stream reliability, and overall system performance under load.