

Ayush Ravi Chandran

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EDUCATION

University of Massachusetts Amherst

Amherst, MA

Bachelor of Science in Computer Science

Expected Graduation: May 2026

Bachelor of Science in Mathematics

GPA: 3.90/4.00

- **Coursework:** Algorithms, Data Structures, Networks, Distributed Systems, Machine Learning
- **Awards:** Chancellor's Scholarship, Dean's International Scholarship, Flynn Research Scholarship, Dean's Honors List
- **Undergraduate Course Assistant** (CS 240): Led weekly discussions, office hours, and graded assignments for **100+** students in probabilistic modeling and inference

EXPERIENCE

Software Engineering Intern

September 2025 - Present

Center for Data Science and AI - University of Massachusetts Amherst

Amherst, MA

- Built a **map-based interview platform** with **React** and geospatial data, helping the Woodwell Climate Research Center assess candidate expertise via interactive geographic visualizations
- Containerized the full-stack app with **Docker**, enabling reproducible deployments across research clusters
- Collaborating with the CDS-AI core team to build scalable AI and data science infrastructure

Software Engineering Intern - Unity HPC Cluster

May 2025 - August 2025

Massachusetts Green High Performance Computing Center (MGHPCC)

Holyoke, MA

- Engineered low-latency telemetry pipelines in a **Linux-based HPC** environment to process **12+ months** of cluster activity, enabling real-time monitoring and faster incident response
- Applied **unsupervised learning** and statistical modeling to optimize job scheduling, reducing GPU underutilization and saving **3,000+** GPU VRAM hours
- Optimized **SQL queries and data indexing strategies** to accelerate SLURM log analysis by 80%, enabling faster anomaly detection across **10.9M+** job records
- Improved monitoring services in cross-functional Agile teams using Git-based CI/CD workflows

Head of Technical Operations

June 2021 - Present

Instilt Educate

Remote

- Directed a team of **10** engineers to re-architect backend services (Express.js, PostgreSQL) and automate scheduling with Google Calendar and Zoom APIs, saving 10+ engineering hours per week
- Led weekly sprints and managed infrastructure for **300+** users while driving Agile adoption, CI/CD, and AWS-based deployments

PROJECTS

Poker Bot | *Python, PyTorch, NumPy*

April 2025

- Developed a poker-playing agent trained via **Q-learning** with a neural network function approximator
- Engineered game state encoding with Monte Carlo-based win rate to improve decision-making under uncertainty
- Built a **reinforcement learning** system simulating game environments to optimize policy via deep Q-networks
- Agent ranked **4th/23rd** in tournament-style evaluation; learned bluffing and folding strategies through play

RouteAble | *TypeScript, NestJS, PostgreSQL, React Native, PyTorch* github.com/RouteAble

November 2023

- Launched a full-stack app in **36 hours** to crowdsource images of inaccessible locations, enhancing navigation for users with mobility challenges
- Developed a **PostgreSQL backend** with **Dockerized** ML models for obstacle detection and similarity, achieving **92%** accuracy in identifying accessibility barriers
- Received **Most Impactful** Award and a \$2,000 prize at the UChicago Winter Tech Showcase '24 for real-world accessibility impact
- Won **Best Use of GitHub** at HackUMass for novel full-stack architecture, awarded by **Major League Hacking**

SKILLS

Languages: Python, Java, C++, JavaScript, TypeScript, SQL, Go, C#, HTML/CSS

Frameworks: React, Next.js, Angular, PyTorch, TensorFlow, Django, FastAPI, Express.js, NestJS, Pandas

Developer Tools: Git, Docker, Kubernetes, AWS, Linux, Redis, SLURM