Ayush Ravi Chandran

ayushravicha@umass.edu | linkedin.com/in/ayush-ravichandran | github.com/espiobest | espiobest.me

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, Dean's Honors List for all semesters

Experience

Massachusetts Green High Performance Computing Center (MGHPCC) — Amherst, MA
Software Engineering Intern - Unity HPC Cluster — May 2025 - August 2025

- Engineered low-latency telemetry pipelines 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
- Analyzed **10.9M+** SLURM job records with **DBSCAN** to detect anomalous workloads and improve resource allocation efficiency

Instilt Educate — Remote
Head of Technical Operations — June 2021 - Present

- Led **10+** engineers to re-architect backend services (Node.js, PostgreSQL) and automate scheduling with Google Calendar and Zoom APIs, saving **10+** engineering hours/week
- Drove CI/CD adoption and AWS cloud deployments, improving development speed and reliability
- Managed infrastructure supporting **300+** users and led weekly engineering sprints

Projects

Travy - Travel Aggregation Platform | *React, Express.js, Docker, PostgreSQL, Leaflet* — April 2025

- Built a full-stack travel planning app that aggregates flights, transit, and rideshare data using **Express.js microservices** to fetch and normalize external API data
- Designed reusable, interactive map components in **React** to visualize real-time routes and enhance user experience
- Streamlined development and deployment across environments by **Dockerizing** the application

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* — November 2023
github.com/RouteAble

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

Leadership

- **Undergraduate Course Assistant** - Reasoning Under Uncertainty (CS 240): Led weekly discussions and graded assignments for **100+** students in probabilistic modeling and inference

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, Github Actions, SLURM