Ayush Ravi Chandran *he/him*

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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: Artificial Intelligence, Algorithms, Calculus, Linear Algebra, Scientific Computing, Statistics, Computer Networks
- Chancellor's Scholarship, Dean's International Scholarship, Dean's Honors List for all semesters

EXPERIENCE

University of Massachusetts Amherst — Amherst, MA
Research Intern - Data Science for Social Good — May 2025 - Present
- Analyzing food insecurity using national survey and consumer data (NHANES, NHIS, ACS, NielsenIQ)
- Engineering geographic and socioeconomic features related to food access, availability, and affordability
- Applying statistical and machine learning methods to quantify causal contributions of key factors
- Collaborating with a multidisciplinary research team and faculty mentors on data-driven policy insights

Instilt Educate — Remote
Head of Technical Operations, Software Development Engineer — June 2021 – Present
- Lead a team of 10+ engineers, driving weekly sprint meetings and managing platform infrastructure for 300+ users
- Built automated data pipelines and onboarding tools, reducing errors and manual work by **50%**
- Developed REST APIs with Express.js and MongoDB, improving data retrieval speed by **30%**
- Refactored backend systems, cutting code complexity by **60%** and improving modularity
- Created scheduling automation with Google Calendar and Zoom APIs, saving **10+ hours** per week

PROJECTS

Travy – Travel Aggregation Platform | *React, Express.js, Docker, PostgreSQL, Leaflet* — April 2025
- Built a full-stack app to centralize travel planning by aggregating flights, transit, and rideshare data
- Designed reusable, interactive map components using **React-Leaflet** to display real-time travel data and routes
- Developed **microservices** in Express.js to fetch and normalize travel data from multiple external APIs
- **Dockerized** the application to streamline development and ensure consistent deployment across environments

Poker Bot | *Python, PyTorch, NumPy* — April 2025
- Developed a poker-playing agent trained via **Q-learning** with a neural network function approximator
- Implemented game state encoding, reward design, and exploration strategies to optimize agent performance
- Trained the model using simulated environments to learn winning strategies through trial-and-error
- Outperformed rule-based opponents, learning bluffing and folding through gameplay

RouteAble | *TypeScript, NestJS, PostgreSQL, HTML/CSS, React Native, PyTorch* — November 2023
github.com/RouteAble

- Launched a full-stack app in 36 hours to enhance navigation by crowd-sourcing images of inaccessible areas
- Engineered image detection and object similarity machine learning models, achieving **92%** accuracy in detecting accessibility obstacles
- Won '**Best use of Github**' Award sponsored by **Major League Hacking** for unique architecture at HackUMass
- Received '**Most Impactful**' Award at the UChicago Winter Tech Showcase '24, along with a prize of **$2,000**

Instilt Educate Website | *HTML/CSS, JavaScript, Express.js* — June 2022 – Present
edu.instilt.com

- Facilitating valuable partnerships, establishing connections with **10+ organizations globally**
- Led a website redesign, improving user navigation and boosting engagement by **40%**
- Implemented SEO strategies and automated content updates, reducing manual maintenance efforts
- Integrated Google Analytics with event tracking, improving conversion rate insights and referral source monitoring

SKILLS

Languages: Python, C++, JavaScript, TypeScript, HTML/CSS, C#, SQL, Java, Go
Frameworks: React, Next.js, Django, FastAPI, Express.js, NestJS, React Native, Flutter, Pandas, Matplotlib, PyTorch
Developer Tools: Git, Docker, Redis, AWS, Linux, VS Code, Visual Studio, PyCharm, IntelliJ, Google Analytics