

# Chinmay Purushottam

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## EDUCATION

### University of Michigan

Ann Arbor, MI

*B.S. in Computer Science & Cognitive Science. GPA: 3.5/4.0*

*May 2025*

**Relevant Coursework:** Machine Learning, Computer Vision, Web Systems, Database Management Systems, Computer Networks, Systems Programming, Data Structures & Algorithms, Computational Linguistics, Artificial Intelligence

## EXPERIENCE

### Software Engineer

Santa Monica, CA

*Chaima AI (a16z Speedrun)*

*June 2025 – Oct 2025*

- Built Chaima's main **web app** in **TypeScript** for user onboarding and personalized date planning experiences.
- Shipped real-time **AI-Agent** booking engine (**GPT-4 & Hyperbrowser SDK**), automating reservations, payments, deliveries via **Firebase, Stripe, Tally webhooks**, & third-party **APIs** for our AI date-planner.
- Integrated **HubSpot, Mixpanel, & Sentry** for CRM sync, secure auth, analytics eventing, & error monitoring.
- Deployments/VelocityEngine: Used env-segregated **Vercel** configs & secrets, **preview deployments**, & **Playwright** tests on GitHub. Coordinated **multi-repository** branch development to land **ReactNative/Node** changes.

### Computer Vision Co-op Engineer

Boston, MA

*AirWorks Solutions, Inc.*

*May 2024 – Jul 2024*

- Created an **object detection pipeline** to detect components on telecom poles from ground-level panoramas.
- Developed **Python, PIL, cv2** preprocessing service scripts to extract EXIF/GPS & RGB stats. Grayscaled, downsampled, augmented, & split **30+GB** of panoramas into flattened images via **Label Studio & Docker**.
- Merged public/private **COCO** datasets (16525 object instances) via versioned ETL. Trained **Detectron2 & NVIDIA-ODTK** on scheduled **L4 GPUs** jobs with **GitHubActions**, achieving **92% & 78%** accuracy.

### Computer Vision Engineer Intern

Boston, MA

*AirWorks Solutions, Inc.*

*May 2023 – Jul 2023*

- Deployed DOTA **aerial detection** model on AirWorks' proprietary data on **AWS EC2** with **84%** accuracy.
- Improved **image-processing & tiling** algorithms by **4%** via hyperparameter tuning & adaptive tiling.
- Tooling & automation for **OpenCV/TorchVision/PyTorch**: CLI + scripts, CI checks, & synced environment.

## LEADERSHIP

### Project Lead - Reinforcement Learning Curriculum

Ann Arbor, MI

*Michigan Student Artificial Intelligence Lab (MSAIL)*

*Dec 2023 – Dec 2024*

- Taught 30+** students **Python** fundamentals like numpy, pandas, matplotlib, **Gymnasium**, & **Scikit-learn**. Explored **Neural Networks, Deep-Q Learning, Hyperparameter tuning** & organized RL projects.

## PERSONAL PROJECTS

### Anime Recommender | Python, scikit-learn, Postgre/SQLAlchemy, Streamlit, FastAPI

May 2025 – Jul 2025

- Built a personalized anime recommender using **RandomForest**. Trained on genres, demographics, user history, and metadata vectorized via **MultiLabelBinarizer** from the **Jikan (MyAnimeList) API**.
- Labeled watched shows as positives & sampled unwatched as negatives to train per-user models on **2,000+ titles**.
- Developed **Streamlit** UI for login, search, & top-*N* recommendations, **alembic PostgreSQL** database backed.

### Smart Calendar | Python, Streamlit, Google Calendar API, Canvasapi, OAuth, CSS, HTML

Jan 2024 – Apr 2024

- Developed a task management app for students with ADHD to streamline personal and academic scheduling.
- Implemented automatic event creation, **Google calendar** synchronization, **CanvasAPI** integration for assignments, **auto-place** event feature, and a **customizable UI** to improve user interaction and accessibility.

### Search Engine | Python, Javascript, MapReduce, RESTAPI, Git, AWS

Sep 2023 – Dec 2023

- Built MapReduce pipeline for an **inverted index** of web pages, returning JSON search results via RestAPI.
- Developed a **GUI** & ranked results using **TF-IDF** and **PageRank** scores from the indexed server's data.

### Social Media Clone | Python, JavaScript, React, RestAPI, HTML, CSS, Jinja, Cypress

Aug 2023 – Nov 2023

- Built Instagram clone using dynamically rendered client-side pages, achieving **95%** test coverage on Cypress.
- Implemented authentication and real-time features, supporting concurrent usage by **1000+ simulated users**.