

# AARUNI GUPTA

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## Education

### Purdue University

August 2023 - Expected December 2026

Bachelor of Science in Computer Science (GPA: **3.98**)

West Lafayette, Indiana

**Relevant Coursework:** Analysis of Algorithms, Data Structures & Algorithms, Computer Architecture, Systems Programming, Computer Security, Information Systems

## Experience

### Capital One

June 2025 – August 2025

Software Engineer Intern (TIP)

Plano, Texas

- Engineered an automated offboarding workflow, eliminating manual intervention for 2,000+ annual events.
- Reduced end-to-end processing time by 75% (from 24 to 6 hrs) via a custom AWS, Python, Java, and SQL workflow.
- Developed a RESTful CRUD service with 100% Pytest coverage, deployed to AWS Lambda with EC2 load balancing.
- Designed an OracleDB schema for 200,000+ historical records, reducing POST request latency (1,000+ updates in 2s).

### Purdue University – Computer Science Department

January 2025 – Present

Teaching Assistant (C Programming, CS 240)

West Lafayette, Indiana

- Led 700+ students in labs and office hours, assisting with memory management, data structures, and debugging.
- Analyzed 200+ code submissions weekly for embedded constants, providing targeted feedback to boost maintainability.

### Purdue Data Mine - Corporate Partners | Raytheon

August 2024 – May 2025

Data Science Researcher

West Lafayette, Indiana

- Detected cellular interference for federal radar systems, achieving 83% recall by training a YOLOv5 model on Pytorch.
- Built a full-stack app streaming AI classification results at 1 frame/sec to clients using React + Python Flask.
- Coordinated in Agile sprints with a 10+ person team, integrating automated testing with Pytest.

### BayOne Solutions

May 2024 – August 2024

Software Engineer Intern

Pleasanton, California

- Built an AI-powered pipeline to detect unapproved assistance in candidate assessments 3× faster than real-time.
- Generated JSON summaries using Python, OpenCV, PyAudio, DeepFace, and Azure Speech Services.
- Reduced false positives by 75% across face ID, object detection, and speech processing by tuning flag thresholds.

## Projects

### Custom Unix Shell | C, C++, Flex, Bison, Unix

- Built a shell supporting command parsing, piping, I/O redirection, background execution, and built-in commands.
- Implemented optimal wildcard expansion and tab completion using dynamic programming and file navigation in C++.
- Integrated Flex and Bison to parse input, enabling sub-shells, escape sequences, and environment variable expansion.
- Developed a custom line editor in C with raw terminal input, supporting history navigation and cursor movement.

### Potato Salad - Custom Stock Screener | React, FastAPI, BeautifulSoup, Heroku

- Identified top stocks based on user preferences via a purpose-built scoring algorithm, deploying on Heroku PaaS.
- Led FastAPI Python backend development to maximize throughput for 6k+ stocks to a React user interface.
- Aggregated news reports with BeautifulSoup and used GPU-accelerated sentiment analysis for recommendations.

## Community Involvement

### Stanford University

April 2024 – May 2024

Code in Place Section Leader

Palo Alto, California

- Engaged a cohort of 10+ students in weekly interactive Python lessons through Stanford's Code in Place program.

## Technical Skills

**Languages:** Python, C, C++, Java, JavaScript, Bash, PHP, SQL, x86-64 Assembly

**Developer Tools:** Git, Linux, Windows, Visual Studio Code, Vim, PowerShell, Jenkins, Pytest, Postman

**Technologies/Frameworks:** AWS (Lambda, EC2, S3), FastAPI, Oracle SQL, Redis, React, Flask, PyTorch, NumPy

**Concepts:** CI/CD, Object-Oriented Programming, Agile Methodology, Version Control, REST APIs