Sharanya Dabas

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Education

Cornell University Ithaca, NY

Bachelor of Science in Computer Science *Expected Graduation December 2025*

Current GPA: **3.76**

Relevant Coursework: Object-Oriented Programming & Data Structures, Functional Programming, Backend Development, Machine Learning, Operating Systems, Algorithms, Embedded Systems, Computer Networks, Discrete Structures, Linear Algebra, Calc I-III

Technical Skills

Languages: Python, C#, Java, C, OCaml, JavaScript, HTML, CSS, Bash, PowerShell
Developer Tools: AWS, PostgreSQL, SQLite, Git, Postman, Visual Studio
Frameworks: ASP.NET, React, Entity Framework, Identity Framework, Flask, Docker
Libraries: OpenCV, Selenium, NumPy, Matplotlib, Scikit-learn

Experience

Software Developer January 2024 – Present

Cornell Cup Robotics *Ithaca, NY*

- Ported existing vision system to new XRP architecture
- Utilized OpenCV to enhance the vision system's performance and reliability
- Tracked the robot's orientation and direction based on AprilTag data for precise navigation
- Collaborated with team to integrate the updated vision system with the robot's control system

Projects

↗ **Fitness Tracker** | *ASP.NET, React, C#, Javascript, PostreSQL*

- Developed a full-stack workout tracker web app with a React (Vite) frontend using the MUI component library for a modern and responsive UI.
- Built a robust ASP.NET API backend with Entity Framework, ensuring efficient data processing and security.
- Designed and managed a PostgreSQL database hosted on AWS RDS, optimizing data storage and retrieval.
- Implemented user authentication with Identity Framework and integrated SendGrid for email notifications.

↗ **Exercise Search Engine** | *Python, JavaScript, HTML, CSS*

- Developed a search engine utilizing SVD to find similarity between query and result exercise
- Implemented dropdown and ad-hoc search to find exercises based on query and filters
- Scraped multiple fitness websites using Selenium to build dataset
- Containerized the application via Docker and deployed to AWS ECS using Fargate launch type

Accelerometer-Driven Game Controller | *C, Python*

- Developed a game controller in C using the FRDM-KL46Z microcontroller
- Utilized the onboard accelerometer to detect tilt inputs on the x-axis
- Designed a Doodle Jump game using Pygame, where accelerometer inputs were sent via UART communication

Database Management System | *OCaml*

- Created tabular data structure that can take in CSVs and provide analysis on the data
- Supports mapping, filtering, and reducing with custom functions on individual columns in the table
- Utilized functional paradigms such as recursion and pattern-matching

Maze Navigator | *Java*

- Wrote, tested, and optimized algorithms to navigate graphs using several key data structures
- Utilized synchronization to minimize CPU usage while concurrently running GUI and back-end