Akash Dhiraj

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Education

Cornell University **May 2025**
B.A. Math and Computer Science

Technical Skills

- Languages: Java, C, Python, OCaml, Javascript/HTML/CSS, Bash
- Frameworks and Libraries: ReactJS, Redux, PyTorch, NumPy, Pandas, Scikit-Learn
- Tools: Git, Github, Linux (Arch)

Selected Coursework

- Object Oriented Programming and Data Structures (CS 2110)
- Discrete Structures (CS 2800)
- Data Structures and Functional Programming (CS 3110)
- Introduction to Analysis of Algorithms (CS 4820)

Work Experience

CS 3110 (Functional Programming) TA: Cornell University CS Department *August 2023 – Present*
- Held weekly office hours, meant for students' queries on lectures, assignments, and exams.
- Designed, graded, proctored, and provided feedback on assignments and exams.
- Guided a team of three students in completing their final class project.

MATH 1110 (Calculus I) Course Assistant: Cornell University Math Department *August 2022 – December 2022*
- Graded and provided feedback on homework assignments for approximately 500 students each week.
- Held weekly sessions to clarify concepts and assist in solving challenging problems.

Machine Learning Intern: The Math Company *May 2022 – June 2022*
- Used Python libraries Pandas, Scikit-Learn, and NumPy to build various supervised machine learning models.
- Wrote internal tools to automate common exploratory data analysis techniques.

Math Circle Organizer *2019 – 2021*
- Organized a math circle for local middle/high school students, covering advanced topics not taught at school.
- Planned all sessions and developed the curriculum for the class. View sample class material.

Personal Projects

Where's My Class *August 2023*
User-friendly interface for Cornell students to visualize class locations on a map and plot routes between them.
- UI built using **ReactJS** and application state partially managed through **Redux**.
- Uses the Cornell Course Roster API to fetch class data.
- Uses the Mapbox API to display the map and fetch route data.
- Class data set to update daily through **Github Actions**.

View repository or website.

Lambda Ledge *April 2023*
2D-Platformer inspired by the highly acclaimed game Celeste.
- Written entirely in **OCaml**.
- Uses thin bindings to **SDL** to draw on the screen.
- Implemented the physics for the game from scratch; no game engines used.

View repository.

Advent of Code: Programming Contest *December 2022, 2023*
Annual Christmas-themed computer programming challenges. View repository.

Last updated December 16, 2023