

Himank Dave

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EDUCATION

University of Waterloo

Bachelor of Mathematics, Honours Co-op

Waterloo, CA

Sept 2022 – Apr 2027

- Coursework: Functional Programming, Algorithm Design and Data Abstraction, Tools and Techniques for Software Development, Object-Oriented Programming (C++)

EXPERIENCE

Lead Developer

DeltaHacks X

Jan 2024

Hamilton, ON

- Created EcoWiz, a full-stack app classifying garbage based on organic, trash, or recyclable criteria.
- Developed frontend with **React** and backend with **Flask** for access to waste classification model.
- Developed **multimodal image classification model** via **ResNet-50** and **YOLOv8** for classifying garbage.

Python Developer Intern

Cactus Creatives Pvt. Ltd

May 2023 – Aug 2023

Ahmedabad, IN

- Used **Django ORM**, streamlining queries in **MySQL** and improving database schema by **20%**.
- Analyzed large client datasets through **linear regression** and **outlier detection**, leading to over **25%** savings in client operating cost and a **10%** increase in client revenue.
- Implemented **REST APIs** with **Flask** and REST Framework in production with 1K+ requests/day.
- Developed and maintained full-stack web applications in **HTMX**, **Django** and **REST Framework**.

PROJECTS

Who Wants to be a Millionaire Clone | HTML5/CSS3, Django, MySQL, REST Framework, AWS

- Deployed the clone to AWS EC2 instance.
- Designed a comprehensive **admin dashboard** with real-time analytics and logging, facilitating **CRUD operations** for questions and categories.
- Developed a secure **RESTful API** supporting question retrieval and secure question addition.

SpectraSVD | NumPy, OpenCV, Pillow, Streamlit

- Wrote image compression algorithm using low-rank approximation, resulting in 25%+ size reduction.
- Employed **OpenCV** and **Pillow** for generating videos demonstrating image compression algorithm.
- Deployed an interactive webapp using **Streamlit**, allowing users to choose the number of singular values and observe its impact on image quality and compression rate in real time.

Chess | C++

- Developed a CLI chess program using **object-oriented programming** in C++.
- Wrote game logic, move validation, and checkmate detection using **polymorphism** and **inheritance**.
- Established testing routines and driver code to ensure proper functionality of program.

RedWish | Firebase, GCP, HTML5/CSS3, JavaScript

- Designed and developed a website connecting donors, recipients, and blood banks.
- Utilized **HTML5/CSS3**, and **JavaScript**, along with Bootstrap and jQuery.
- Leveraged Google **Firebase** for backend database management and real-time updates, while implementing Google **DialogFlow** for a conversational AI chatbot.

TECHNICAL SKILLS

Languages: Python, C/C++, SQL, R, JavaScript, HTML5/CSS3, HTMX

Frameworks: Django, REST Framework, Flask, Pandas, Matplotlib, Plotly, NumPy, OpenCV, jQuery

Tools: Git, Linux, Bash, Powershell, Postman, GCP, AWS, Jira