

# 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 a **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 algorithm for image compression in **NumPy**, using low-rank approximation.
- 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++.
- Implemented 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