

Himank Dave

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EDUCATION

University of Waterloo

Bachelor of Mathematics, Honours Co-op

Waterloo, CA

Sept 2022 – Apr 2027

- Relevant Coursework: Designing Functional Programs, Elementary Algorithm Design and Data Abstraction, Tools and Techniques for Software Development, Object-Oriented Software Development

EXPERIENCE

Lead Developer

Jan 2024

DeltaHacks X

Hamilton, ON

- Created EcoWiz, a full-stack app for classifying garbage based on organic, trash, or recyclable criteria.
- Developed frontend with **React** for an intuitive user experience and backend API with **Flask** for scalable, on-demand access to waste classification model.
- Engineered an cutting-edge **multimodal waste classification model** using **ResNet-50 CNN** for precise classification based on trained datasets and **YOLOv8** for object marking.

Python Developer Intern

May 2023 – Aug 2023

Cactus Creatives Pvt. Ltd

Ahmedabad, IN

- Developed and maintained full-stack web applications using **HTMX**, **Django** and **REST Framework**.
- Utilized **Django ORM** to streamline database interactions in **MySQL**, improving database schema, while ensuring data integrity.
- Implemented **RESTful APIs** with **Flask** and REST Framework, ensuring seamless backend and frontend integration in production.
- Analyzed large client datasets through statistical methods and informing business decisions, leading to over 25% savings in client operating cost and a 10% increase in client revenue.

PROJECTS

Who Wants to be a Millionaire Clone [🔗](#) | Django, MySQL, Django REST Framework, AWS

- Created a "Who Wants to be a Millionaire" clone, integrating *lifelines*, progressive *difficulty levels* and *countdowns* using **HTML5/CSS3**, **Django** and **MySQL**, deployed via **AWS**.
- Designed a comprehensive **admin dashboard** with real-time analytics and logging, facilitating *CRUD operations* for questions and categories.
- Developed a secure **RESTful API** with *token-based authentication*, supporting random question retrieval and secure question addition.

Chess | C++

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

SpectraSVD [🔗](#) | NumPy, OpenCV, Pillow, Streamlit

- Wrote algorithm for image compression in **NumPy**, using low-rank approximation.
- Employed **OpenCV** and **Pillow** to make a video showing rank-k approximation at different singular values.
- 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.

RedWish [🔗](#) | Firebase, GCP, HTML5/CSS3, JavaScript

- Designed and developed a website connecting donors, recipients, and blood banks, thus streamlining blood donation and transfusion.
- 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/Libraries: Django, REST Framework, Flask, Pandas, Matplotlib, Plotly, NumPy, OpenCV, Pillow, jQuery, Bootstrap

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