

# HIMANK DAVE

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## Technical Skills

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**Languages:** Python3, JavaScript(ES6), C, C++20, Golang, HTML5, CSS3, SQL

**Frameworks:** Django, Flask, pytest, React, Node.js, TailwindCSS, jQuery, D3.js, Socket.IO

**Libraries:** Pandas, Matplotlib, Plotly, NumPy, OpenCV

**Tools:** Git, Linux, Bash, Powershell, Docker, Postman, GCP, AWS

## Experience

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### Software Developer Intern - Core

May 2024 - Aug 2024

#### Cactus Creatives

Remote

- Developed a pipeline to scrape, clean, and model hierarchical data with interactive visualizations using **Flask**, **React** and **D3.js**.
- Built a self-hosted uptime monitoring tool using React, **TailwindCSS**, **Node**, **Socket.IO** & deployed it on VPS.
- Engineered a domain-specific chatbot with **85% accuracy**, leveraging a PDF-trained algorithm, custom model trainer, and **OpenAI's NLP API** for multilingual responses.
- Employed **Github Actions** to write multiple CI/CD pipelines for chatbot and uptime monitoring tool.

### Python Developer Intern

May 2023 - Aug 2023

#### Cactus Creatives

Ahmedabad, IN

- Wrote Python script to parse and migrate 25k+ records from **MySQL** to **PostgreSQL** databases, optimizing raw SQL queries in existing client codebase.
- Analyzed large product usage datasets through **linear/logistic regression** and **outlier detection** and gave insights, leading to over **25%** client savings and a **10%** client revenue increase.
- Developed and maintained full-stack CMS in **HTMX** and **Django**, displaying real-time metrics.

## Projects

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### Trivivo 🎮 | *HTML5/CSS3, Django, MySQL, REST Framework, AWS*

- Built frontend using HTML5/CSS3/**jQuery**, backend with **Django** and **MySQL**, while offering **RESTful API** for admin operations and deployed to **AWS EC2** instance.
- Crafted interactive admin dashboard with real-time metrics, CRUD operations and detailed logs, optimizing game management by **45%**.

### SpectraSVD 🎮 | *NumPy, OpenCV, Pillow, Streamlit*

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

### Chess | *C++, CMake, XQuartz*

- Built a **C++ chess engine** following agile **SDLC** using Big 5 for piece management, and UML for class management.
- Utilized **STL** and the Observer pattern to enhance game features, state tracking, and checkmate conditions.
- Innovated versatile three-way and four-way chess variants, along with human vs computer version improving game ratings.
- Developed **test-suites** & GUI in Linux environment using **CMake** & **XWindows** to facilitate development.

### RedWish 🎮 | *Firebase, GCP, HTML5/CSS3, JavaScript*

- Developed a full-stack health app to democratize blood donation and transfusion accessibility.
- Built frontend with HTML5, CSS3, Bootstrap, and jQuery, and backend with Firebase.
- Utilized **DialogFlow API** to craft a chatbot for customers, enhancing user engagement.

## Education

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### University of Waterloo

Waterloo, CA

#### Bachelor of Mathematics, Honours (Co-op)

2022 - Present

- Major: Computational Mathematics
- Coursework: Functional Programming, Procedural Programming, Object-Oriented Programming, Data Structures and Algorithms, Nonlinear Optimization