BHAVYA VASHISHT

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EDUCATION

Thapar Institute Of Engineering and Technology — Patiala
Bachelor of Engineering in Electronics and Communication Engineering — *2022 – 2026*
CGPA: 8.79

Shalom Hills International School — Gurugram
CLASS XII (PCM with CS) CBSE ***95.8%*** — *2020 – 2021*

Shalom Hills International School — Gurugram
CLASS X CBSE ***96.33%*** — *2018 – 2019*

SKILLS

Languages: Go, Python, C

Databases & Tools: PostgreSQL, SQLC, Goose,

Frameworks & Libraries: database/sql, bcrypt, JWT

Developer Tools: Git, VS Code, Jupyter Notebook

Coursework: Object-Oriented Programming, Data Structures and Algorithms, Database Management Systems, Computer Architecture, Artificial Intelligence

Certifications: HTTP Clients in Go, Learn Linux, Learn OOP in Python, Learn Go

PROJECTS

Chirpy | *Go, PostgreSQL, JWT, SQLC, Goose* — GitHub

- Built a **REST API** in Go for a micro-blogging platform with user auth, session handling, and chirp posting.
- Implemented **JWT auth**, **bcrypt hashing**, and middleware for logging, validation, and error recovery.
- Added **Chirpy Red** via **webhooks** to process premium subscription updates.
- Designed a **PostgreSQL schema** with **SQLC + Goose**, using 5 migrations and 20 + queries.
- Tested **10 API endpoints** over 200 + requests to verify consistent and correct responses.

Gator | *Go, PostgreSQL, RSS/Atom, SQLC, Goose* — GitHub

- Built a **CLI-based RSS/Atom feed aggregator** in Go to fetch, parse, and persist content from **20+ online feeds**.
- Implemented **10+ CLI commands** for user registration, feed following, and browsing aggregated posts.
- Used **PostgreSQL with SQLC and Goose** to define 4+ migrations and 12 type-safe SQL queries for persistence.
- Designed a **ticker-based feed fetcher** leveraging Go's concurrency primitives to periodically aggregate **500+ posts** without duplication.

AI Agent CLI | *Python, Gemini API, Function Calling* — GitHub

- Built a CLI **AI agent** in Python using the **Gemini API** to analyze, modify, and execute local Python code.
- Designed a modular **function-calling system** with 5 tools for file I/O, code editing, and test execution.
- Implemented a **plan–act–observe loop** capped at 5 iterations with structured error handling for safe runs.
- Tested on **8 Python debugging tasks**, averaging **2–3 s/iteration** and achieving **80 % successful fixes**.

Smart Food Waste Management System | *Raspberry Pi, IoT, Computer Vision, Firebase* — **Capstone**

- Built a **Raspberry Pi** system with dual cameras and HX711 Load cell for automated face and food recognition to monitor and weigh mess food waste.
- Trained a **HOG face recognition model** (**95% accuracy**) and a **YOLOv11 food recognition model** on an **8 k-image custom made dataset** (**88% mAP**).
- Linked models to a **Firebase app** via REST APIs for real-time inference, data logging, and analytics.
- Processed **500 + meal samples**, yielding insights indicating a **15–20 % waste reduction**.

ACTIVITIES

ACM Thapar Chapter
Member

- Initiated a mentorship program connecting 10+ senior ACM members with juniors to strengthen the society's learning ecosystem.