

## Wajahat Hassan

Python / Flask Developer - Junior Backend & RAG Prototypes

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## OBJECTIVE

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I am an engineer transitioning to software development. I have hands-on experience building deployable Python/Flask web apps, and an end-to-end RAG prototype. I am seeking MS/RA or junior backend roles (Asan / nearby cities preferred) where I can contribute practical web-backend and applied-ML work while growing in research and production engineering.

## KEY SKILLS

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- **Languages:** Python, SQL, JavaScript (vanilla).
- **Web & Back-end:** Flask, Jinja2, REST API design, JSON endpoints.
- **ML / LLMs:** Cloud-based embeddings (Google Generative AI), lightweight vector search with NumPy, prompt engineering, RAG pipelines.
- **Data & tooling:** pandas, numpy, SQLite, basic Git.
- **Front-end:** HTML5, CSS3, DOM Manipulation, Fetch (AJAX).
- **Engineering:** OOP, modular design, README/documentation, cloud-constrained deployment to PythonAnywhere.

## SELECTED PROJECTS

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### The Shrine | RAG-enabled Flask app

- **Built an end-to-end retrieval-augmented Q&A prototype:** refactored for cloud deployment constraints.
- Replaced local PyTorch + FAISS stack with cloud embeddings (Google GenAI) and NumPy dot-product similarity search to meet strict disk and memory limits.
- **Demonstrates retrieval → prompt → generation flow;** includes /ask JSON endpoint and a non-blocking UX (typewriter effect).
- Designed to be lightweight, reproducible, and suitable for live demos on free hosting tiers.
- **Repo + README + demo:** [The Shrine Repo](#) / [The Shrine Live Demo](#)

## Portfolio Gallery | Data-driven Flask portfolio

- Constructed a Flask web gallery that loads project metadata from CSV via pandas and renders multi-media entries.
- Added a client-side estimator widget and responsive layout.
- **Repo + README:** [Portfolio Gallery + Estimator Widget Repo](#)

## EXPERIENCE

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### Independent Developer

- Personal projects & demos (Flask, RAG, deployments).
- Maintained code, READMEs and live demos to show reproducible proof of work.

### 3D Artist & Freelance Designer

- Prior freelance experience producing client deliverables (logos, posters, animation assets), client communication and delivery management.

## EDUCATION

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- **HITEC University | Taxila, Pakistan** *Master of Science in Electrical Engineering* | December 2021 (Master's thesis details available on request.)
- **COMSATS University Islamabad | Wah Campus, Pakistan** *Bachelor of Science in Electrical Engineering* | July 2018

## AVAILABILITY & LINKS

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- **Seeking:** MS/RA positions or junior backend roles (open to remote / relocation to Korea).
- **GitHub:** <https://github.com/wajjahathassan/The-Shrine>
- **Live demo:** <https://wajahat2106hassan.pythonanywhere.com>

## SHORT NOTE

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- References, project walkthroughs, and further technical notes available upon request.
- I can provide a short video (30-45s) showing the RAG demo in action - useful for quick review.