AFRAH FATHIMA S

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SUMMARY: Graduate student in Computer Science with experience in full-stack development and AI/ML solutions across travel tech, legal automation, and agri-tech domains. Skilled in building scalable applications and intelligent systems using modern frameworks and cloud technologies. Seeking internship opportunities to contribute to impactful and data-driven software solutions. Open to relocation.

EDUCATION

Northeastern University, Boston, MA — Sep 2024 - Present
Master of Science in Computer Science
Relevant Coursework: Algorithms, Programming Design Paradigm, DBMS, Cloud Computing, Web Development

Anna University, Chennai, India — June 2020 -May 2024
Bachelor of Engineering in Computer Science and Engineering

TECHNICAL SKILLS

Programming Languages:	Python, C, Java, JavaScript, SQL
Web Technologies:	HTML/CSS, React.js, Bootstrap, nodejs, Tailwind CSS, Flask, Typescript, Nextjs
Machine Learning/AI:	Scikit-learn, Keras, PyTorch, NumPy, Pandas, Matplotlib, Seaborn, Tensorflow
Databases & APIs:	MySQL, PostgreSQL, MongoDB, Prisma ORM, FastAPI, RESTAPI, Postman
DevOps & Tools:	Git, Docker, AWS, GCP, Terraform, JUnit, Selenium, Tableau, Power BI

WORK EXPERIENCE

Brainvault Technologies, India **| Software Developer Intern** — Jan 2024 – June 2024

- Addressed time-consuming travel planning at TravelNet Solutions by developing a smart assistant using **OpenAI, Hugging Face, FastAPI, MySQL, Beautiful Soup,** and **Nominatim API** for automated itinerary creation and location mapping.
- Delivered features such as automated itineraries, surprise trip planning, and nearby attraction suggestions, **reducing planning time by 80–90%** and improving client engagement.
- Developed a pipeline to extract property expense data from unstructured PDFs, streamlining invoice processing for a legal client.
- Used **LLMs (Gemini, LLAMA)** and **PDFPlumber** to achieve **90–95% field-level accuracy,** streamlining workflows and significantly reducing manual effort.

Waycool Food and Products Pvt. Ltd, India **| Machine Learning Intern** — Sep 2022 – Nov 2022

- Traditional methods for analyzing grain size were slow and error-prone; designed a CNN-based deep learning model to identify, count, and measure grain sizes with **85–90% accuracy**, significantly improving precision and consistency.
- Enhanced model performance by applying advanced feature extraction, adaptive thresholding, and custom data preprocessing, **reducing computational time by 85%** without compromising accuracy.
- Gained deep expertise in computer vision and **model optimization**, earning top performance scores within the intern cohort and commendation from senior data scientists for quality and impact.

PROJECTS

Job-Tracker - Scalable Full Stack Application | Github-Repo — Jan 2025 – Apr 2025

- Developed and deployed a full-stack job application tracker using React, Node.js, TypeScript, Prisma ORM, and MySQL, featuring secure JWT authentication, RESTful APIs, and a CI/CD pipeline on Vercel for streamlined deployment.
- Designed a responsive, accessible UI with Tailwind CSS and built an interactive analytics dashboard that visualized job status metrics, **boosting user engagement by 70%** and reducing manual tracking effort by 75%.

Husky Eats – University Food Ordering Platform | Github-Repo — Sep 2024 – Dec 2024

- Engineered a food ordering platform for Northeastern students and staff, enabling orders from on-campus and nearby locations, with frontend built using HTML, CSS, Bootstrap, and backend powered by Flask and MySQL, ensuring secure data transactions and refined user interaction.
- Designed relational database schema with stored procedures and complex SQL queries, improving query performance by 50% and **ensuring 98% order processing accuracy**.
- Integrated OTP-based authentication and real-time order tracking, enhancing transaction security and **boosting user participation by 60%.**

Image Processing Application | Github-Repo — Sep 2024 – Dec 2024

- Developed an image processing application using Java Swing and AWT, following the MVC design pattern, with features like, component visualization, image compression and downscaling etc with a preview functionality for real-time visualization.
- Achieved over **95% accuracy** in image manipulation tasks, **boosted processing efficiency by 60%,** and enhanced the application's operational effectiveness and user experience.