Spandan Chakrabarty

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TECHNICAL SKILLS

Programming Languages: Python, JavaScript, SQL, C, Bash, HTML/CSS
Frameworks & Libraries: React.js, Flask, Angular, Pytorch, FastAI, Scikit-learn, OpenCV, Pandas, NumPy
Developer Tools: Git/GitHub, Docker, Firebase, Supabase, Linux, VS Code, Jupyter Notebooks, LaTeX, Figma, Tableau, Power BI

EXPERIENCE

Software Consultant Intern   May 2024 – Aug 2024
Tech Mahindra   *Abu Dhabi, UAE*
- Contributed to the development of a **waste management and recycling system** for the Environment Agency of Abu Dhabi, aimed at streamlining recycling and disposal processes.
- Assisted in building the **mobile application frontend** using **Angular** and **Ionic**, improving UI responsiveness and user experience across devices.
- Supported the creation of the **web application frontend**, collaborating with senior developers to ensure consistency across platforms.
- Worked with the team to test **MS SQL database pipelines**, optimizing data retrieval and ensuring reliable system performance.
- Gained exposure to **Agile workflows**, contributing to sprint planning and testing, while documenting development processes for smoother team collaboration.

Technical Project Member   Oct 2023 – Feb 2024
ADIS   *Abu Dhabi, UAE*
- Designed the **UI/UX enhancements** for the "ADIS - Save Water App" using **Figma** and **Flutter**.
- Contributed to the **deployment** of the app on **Google Play Store** and **Apple App Store**.
- Achieved **100+ downloads** within the **first month** of release, demonstrating strong market validation for water conservation efforts.

PROJECTS

Personal Finance Tracker   github.com/spandan3/personal-finance-tracker
- Built an AI-powered personal finance tracker that **predicts transaction categories** using a FastAI model trained on real-world expense data.
- Implemented **secure user authentication** and database management with Supabase (PostgreSQL).
- Backend powered by **Flask + FastAI**, with Git LFS for handling large ML model files.

F1 Project   github.com/spandan3/f1-project
- Building a full-stack ML system to **predict Formula 1 race outcomes**, integrating driver form, qualifying data, weather, and tyre strategies.
- Implemented analytics for **driver/constructor performance**, pit stop efficiency, and season trends using FastF1 API + Pandas.
- Frontend (React + Tailwind + D3.js) planned for **interactive dashboards** with real-time updates.
- Currently developing a **chat assistant** using RAG pipeline (FAISS/Qdrant) and PyTorch experimentation.

Smart Waste Classifier   github.com/spandan3/smart-waste-classifier
- Developed a web application that **classifies waste items** (plastic, paper, etc.) using a FastAI CNN model.
- Implemented a Flask-based REST API with CORS support, returning prediction results with confidence scores.
- Designed a modern, **responsive UI** with React, TypeScript, Tailwind, and Lucide icons.
- Provided personalized **recycling tips** based on predicted waste categories.

EDUCATION

University of Waterloo   Expected Graduation, Aug 2029
Bachelor of Computer Science (BCS)
- **Average: 95.50%**
- **Related Coursework:** Techniques for Software Development, Algorithm Design and Data Structures, Linear Algebra, Calculus II