Fardin Abdulla

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Technical Skills

Languages: Python, C, C++, HTML, CSS, Tailwind CSS, Java, JavaScript, TypeScript, Matlab, R
Frameworks/Libraries: React JS, Next.js, Node.js, ShadCN, Matplotlib, Spring/Spring Boot, MockMvc, JUnit
Tools/Databases: PostgreSQL, AWS, Firebase, DataStax, Git/GitHub, Git bash, Visual Studio Code, R studio, Docker

Projects

Machine Learning Project | *Github* ***Oct 2024 - Dec 2024***

CMPT 310 - Introduction to Artificial Intelligence, SFU

- Implemented a Naïve Bayes classifier in **Python** with Laplace smoothing, achieving 80% accuracy for the **Modified National Institute of Standards and Technology** dataset digit recognition by leveraging probabilistic methods.
- Built a three-layer Deep **Neural Network** with hyperparameter optimization, reaching 97% accuracy on the **Modified National Institute of Standards and Technology** dataset through advanced training techniques for deep learning.
- Created a Recurrent Neural Network for word-level language detection, modelling sequential data patterns to attain 85% accuracy.

Personal Portfolio Web App | *Github* ***Oct 2024 - Dec 2024***

Personal project

- Developed a creative full-stack personal portfolio website using **Java Spring Boot** for the backend and **Next.js** with **React**, **Tailwind CSS** and **TypeScript** for the frontend, enabling real-time integration of user-specific data.
- Integrated dynamic and interactive features such as real-time music activity (**Last.fm API**), Discord platform status (**Lanyard API**), **3D maps** visualizations (Google Maps API), and an AI chatbot (**OpenAI API**) to enhance user engagement.
- Deployed frontend on **Vercel** and backend on **Render**, ensuring proper **CORS configurations** to enable secure API interaction.

JourneyGenie Web App | *Github* ***May 2024 - Aug 2024***

CMPT 276 - Introduction to Software Engineering, SFU

- Architected and developed a full-stack travel planning web application using **Java Spring Boot** for backend and **HTML**, **CSS**, **JS** for frontend, enabling users to efficiently plan and manage travel itineraries.
- Constructed a **Budget Tracker** with the **Open Exchange Rates API** to track travel expenses across multiple currencies and integrated a **Weather Forecast** feature with the **OpenWeatherMap API** to deliver real-time destination forecasts.
- Leveraged **3** different **Google Maps APIs** to suggest nearby attractions, restaurants, and activities tailored to users' itineraries.
- Established secure **user authentication** and **data storage** with **PostgreSQL**, enabling customers to safely and securely save, retrieve, and manage personalized trip plans, routes, and checklists.
- Introduced an AI-powered chatbot via **Google Gemini API** to provide travel assistance, enabling users to plan trips efficiently.
- Conducted comprehensive unit testing using **JUnit** and **MockMvc** and wrote design documents, to validate backend functionality and articulate the project architecture, ensuring 95% code coverage and robust error handling for the features.

Collision-Resistant Hashmap for a Social Networking Platform | *Github* ***Feb 2024 - Apr 2024***

CMPT 225 - Data Structures and Programming, SFU

- Developed a console-based social networking application in **C++** using **Object-Oriented Programming** principles, enabling users to create, modify, search, and manage profiles, with a focus on optimizing search functionality.
- Engineered a collision-resistant **Hashmap** using linear probing, reducing data retrieval time by 30% and improving the application's performance under high collision scenarios (31% collisions).
- Crafted memory-efficient algorithms to enforce profile uniqueness and maintain sorted collections within fixed constraints.

Work Experience

Personal Tutor | *Self-Employed* ***Jan 2024 - Present***

- Provided academic support and guidance to university students in Data Structures and Algorithms (DSA), Math, and Statistics.
- Enabled students to achieve significant academic improvements, with an average increase of 15% in overall course grades.

Education

Simon Fraser University | *BSc. Computing Science* ***Sep 2022 – Dec 2026***

- **Relevant Coursework:** Data Structures/Algorithm, Relational Databases, Machine Learning, Client-side Web Development, Server-side Web Development, Discrete Mathematics, Numerical Analysis, Probability and Statistics, R for Data Science