Saimanas (Manas) Reddy

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Developer with strong foundation in Javascript/Typescript, Go, Python, R, SQL, and client-focused development with a focus on machine learning, RAG pipelines and modern full-stack architecture. Looking to contribute through any positions with the intersection between full-stack development and data.

CAREER

- **Research Assistant @ Baylor University** *(Fall 2023 - Spring 2025)*
  - Processed next-generation sequencing (NGS) data using a bioinformatics pipeline involving FastQC (quality control), BWA (alignment), SAMtools (sorting/indexing), and GATK (variant calling).
  - Wrote and maintained Python scripts to automate data preprocessing and streamline analysis workflows.
  - Conducted downstream genetic variant analysis and interpretation to support ongoing research in human genetics with a focus in developing visuals using Matplotlib and Power BI.
  - Collaborated with lab members to troubleshoot pipeline issues and ensure reproducibility and data integrity.

CERTIFICATIONS AND TECHNOLOGIES

- **Certifications:** University of Michigan Python 3 Programming Specialization
- **Technologies:** Javascript/Typescript, Go, , Python, R, mySQL, PostgreSQL, MongoDB, ReactJS, ExpressJS, PyTorch, tRPC/oRPC/gRPC (Remote Procedure Call Protocols), Tableau, Power BI, Matplotlib, Grafana, AWS, Cloudflare, Docker
- **Interests:** Full-stack Development, Data Science, DevOps, Cloud Computing, Stock Analytics, Sports Analytics, Machine Learning, Japanese Language, Kendo

PROJECTS

- **React-Like Golang Framework**
  - Architected and implemented Golem, an experimental **WebAssembly-based** web framework that enables building 100% **Go** frontends without any JavaScript/TypeScript dependencies.
  - Designed and developed a static-typed, observable-based **reactivity model** and **virtual DOM** engine in Go, ensuring compile-time safety and efficient UI updates.
  - Built a unified **CLI tool** for project scaffolding, development server, and production builds, and **automated cross-platform** releases (Linux, macOS, Windows) via conventional commits.
- **FiveM Department Management System**
  - Developed a comprehensive Department Management System for FiveM communities, leveraging **Nextjs (React)**, **tRPC**, **Tailwind CSS**, **Drizzle ORM**, and **PostgreSQL**.
  - Designed and implemented key features including multi-department support, hierarchical rank structures, and a dynamic callsign generation system, enhancing organizational efficiency with an end-to-end schema using Drizzle ORM.
  - Created a granular permission system and a Discord integration for seamless role synchronization, improving user access control and platform consistency.
- **SendOnce**
  - Built a modern web-based email client using **Nextjs (React)** and **tRPC**, integrated with an AI layer powered by **OpenAI GPT** models.
  - Designed and implemented **Retrieval-Augmented Generation** (RAG) pipelines to summarize emails and extract structured insights. NLP tasks including summarization and information extraction.
  - Applied prompt engineering techniques to optimize information retrieval and accuracy from LLMs.
  - Architected scalable backend using **Drizzle ORM** with **PostgreSQL** and deployed via **SST** on **AWS**.
- **Diabetes Prediction Regression Analysis**
  - Developed a binary classification model using Logistic Regression in **R** to predict diabetes risk from a dataset of 10,000 health records. Started with data preprocessing, exploratory analysis, and model building.
  - Engineered a binary target variable ('Diabetes') based on clinical guidelines applied to Fasting Blood Glucose levels.
  - Achieved perfect predictive performance (1.00 AUC) on the test set, and analyzed feature importance to understand key predictors. Wrote **LATEX** documentation for the process and analysis on the dataset.

EDUCATION

- **Baylor University** *(Fall 2021- Spring 2025)*
  - *Bachelor of Arts, Political Science*
  - *Minor in Law, Reasoning, and Analysis*
  - *Waco, TX*
    - Baylor Data Science Association Historian
    - Baylor Kendo Club President
    - Coursework: Introduction to Data Science, Logic, Elementary Statistics, Research Writing: PSC Methods, Japanese (4 Semesters)