Prithvi Seran

365-688-1204 | prithviseran0@gmail.com | https://prithvi-seran.vercel.app | https://github.com/PrithviSeran

Education

University of Toronto — Toronto, Ontario
BSc. Honours Computer Science (GPA: 3.78) — *Sept. 2023 – Sept. 2028*

Experience

Firmware Developer — January 2024 – Present
University of Toronto Aerospace Team — *Toronto, Ontario*

- Developed drivers for the FINCH satellites Emergency Power System, which consisted of a BMS, load switches, buck converter and an MPPT board.
- Analyzed circuit schematics and CPU datasheets to manipulate registers and establish communication between the OBC and the EPS using I2C protocols.

Data Processing Member — January 2024 – Present
University of Toronto Aerospace Team — *Toronto, Ontario*

- Leveraged transfer learning to implement diffusion models and transformer models to remove complex noise (any distortions in the image such as image noise, dead pixels, stripes, etc) from hyper spectral images using TensorFlow and PyTorch.
- Co-authored a research paper titled "Beyond the Visible: Jointly Attending to Spectral and Spatial Dimensions with HSI-Diffusion for the FINCH Spacecraft".

Freelance Software Developer — Nov. 2023 – Jan. 2024
Freelance/Part-Time — *Whitby, Ontario*

- Implemented automated trading strategies using OANDA's API to execute and manage trades, and retrieved and analyzed currency pair data.
- Developed a Python module to seamlessly interact with the Google Cloud API, facilitating the creation of schedulers, Pub/Sub topics, Cloud Functions, and the deployment of trading bots to Google Cloud.
- Employed Terraform and the python-terraform module to establish and configure Google Storage Buckets, optimizing storage for Python scripts associated with the trading bot.
- Designed and implemented an iOS app using Swift and SwiftUI, featuring secure login and registration functionality backed by Firebase authentication.

Projects

DrawNote AI | *C#, Azure, PyTorch, Swift* — August 2023 – November 2023

- DrawNote AI is an IOS app that scans whitboard and blackboard writings/drawings and transfers to a OneNote page, aimed at students who struggle to take notes.
- Leveraged Azure Storage Blobs and Azure Functions to run the PyTorch DNN and extract the drawings.
- Utilized C# and ink mark-up tool 'InkML' to make POST requests to OneNote.
- Created user-friendly interface using Swift and MSAL authentication to log the user in with their Outlook email.

EZSpeech | *Vertex AI, GCP, Flask, HTML/CSS, Python* — August 2023 – November 2023

- EZSpeech is a web application facilitating seamless communication across languages.
- Leveraged multiple Google Cloud APIs such as Google Speech to Text, Sentiment Analysis and Test to Speech APIs to synthesize speech responses in multiple languages
- Utilized Flask and HTML/CSS to build a user-friendly interface, ensuring intuitive navigation and a seamless user experience.

YOLO v1 Implementation From Scratch | *Tensorflow, OpenCV, Pandas* — August 2023 – November 2023

- Built the architecture of the YOLO V1 computer vision model using TensorFlow Functional API
- Trained the entire model from a custom dataset of 200 images, and achieved a loss value of around 7.9 and mAP of 0.92

Certifications

Deep Learning Specialization by Andrew Ng — July 2023 – August 2023

- Learned foundational and intermediate skills in structuring machine learning projects, neural networks, convolutional neural networks, sequence models, and hyperparameter tuning, regularization, optimization

Technical Skills

Languages: Java, Python, C/C++, SQL, JavaScript, HTML/CSS, R
Frameworks: TensorFlow, PyTorch, Django, React, Node, Flask
Developer Tools: Git, Docker, Google Cloud Platform, VS Code, Visual Studio, STM32CubeIDE
Libraries: pandas, NumPy, Matplotlib, python-terraform, Sklearn, GSAP, Lenis