

# Prithvi Seran

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## EDUCATION

### University of Toronto

BSc. Honours Computer Science (GPA: 3.78)

Toronto, Ontario

Sept. 2023 – Sept. 2028

## EXPERIENCE

### Mobility Innovations Lead

Aug. 2024 – Present

AUToronto

Toronto, Ontario

- Led a team of engineering undergraduates in the Mobility Innovations competition for the SAE AutoDrive challenge, hosted by GM.
- Developed novel solutions to prevent antagonistic actions intended to disable autonomous vehicles or prevent all dynamic functions of an autonomous vehicle on public roads.

### Data Processing Member

Jan. 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) 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”, which was presented at the SmallSat Conference in Logan, Utah.

### Firmware Developer

Jan. 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.

## PROJECTS

### AI Digital Marketing 🗜️ | Django, PostgreSQL, GCP, Llama 3

Jun. 2024 – present

- Developed a Django-based application to automate and optimize email marketing campaigns.
- Implemented Selenium to find relevant businesses and utilized Scrapy to extract content from their websites.
- Integrated the LLM Llama 3 to generate personalized email templates tailored to individual businesses.
- Leveraged Google Cloud Platform for user authentication and enabled Gmail-based email dispatch.
- Engineered a PostgreSQL database solution to securely store and manage users' email campaign data, ensuring fast data retrieval and scalability.

### TAAMS Item Collection Management 🗜️ | Android, Java, Firebase, SCRUM

Jul. 2024 – Aug. 2024

- Led a development team in building an Android app in Java for the Toronto Asian Art Museum.
- Served as SCRUM master, facilitating daily stand-ups and removing sprint impediments to ensure smooth progress.
- Integrated Firebase Authentication for secure admin login and utilized Realtime Database for efficient museum item management.

### DrawNote AI 🗜️ | C#, Azure, PyTorch, Swift

May 2024 – Jul. 2024

- Developed DrawNote AI, an iOS app designed to capture whiteboard and blackboard drawings, converting it into OneNote pages to assist students with note-taking.
- Employed Azure Storage Blobs and Azure Functions to execute PyTorch DNN models for drawing extraction.
- Utilized C# and the InkML markup tool to make POST requests to OneNote for content transfer.
- Designed a user-friendly interface with Swift, incorporating MSAL authentication for secure Outlook email login.

### Prince Financials - Forex Trading Bot 🗜️ | Python, GCP, Terraform, Swift

Nov. 2023 – Jan. 2024

- 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.

## TECHNICAL SKILLS

**Languages:** Java, Python, C/C++, SQL, JavaScript, HTML/CSS, Swift, C#

**Frameworks:** TensorFlow, PyTorch, Django, React, Node, Flask

**Developer Tools:** Git, Docker, Google Cloud Platform, Azure, VS Code, Visual Studio, STM32CubeIDE

**Libraries:** pandas, NumPy, Matplotlib, python-terraform, Sklearn, GSAP, Lenis, Selenium, Scrapy