Aprameya Aithal

UBC Science Co-op

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Technical Skills

Languages: Python, C/C++, Java, Dart, SQL, JavaScript, HTML/CSS, R, Linux Shell Script
Front-end Frameworks: Flutter, React, Next.js, Angular, Material-UI, Tailwind CSS, Bootstrap
Back-end Technologies: Flask, Firebase, MongoDB, Node.js, Sanity.io, REST APIs
Cloud Technologies: Linux Virtual Machines, Amazon Web Services (AWS LightSail, Amazon EC2), Google Cloud Platform (GCP)
Data & Machine Learning: SQL (SQLite), NoSQL, NumPy, Pandas, TensorFlow, Keras, OpenCV, Convolutional Neural Networks
Other: Docker, Git, GitHub, CI/CD (JUnit, PyTest), IntelliJ, PyCharm, Visual Studio, VS Code

Technical Experience

Web Development Team Member 01/2024 – Present
UBC AgroBot Engineering Design Team *Vancouver, BC*

- Leading a team of three web developers in designing and developing a **comprehensive website and data dashboard** for UBC AgroBot & AgroPonics projects using Node.js, React, and Tailwind CSS
- Collaborating with other sub-teams to facilitate the funding, design, and development of an autonomous crop weeding & fertilizing robot

Computer Science Teaching Assistant 09/2023 – Present
University of British Columbia *Vancouver, BC*

- TA for CPSC 121: Models of Computation (covers Boolean Algebra, Logic Circuits, State Machine modelling)
- Conducting weekly tutorials (**30-40** students), labs (**20-30** students) & assisting the Professor in delivering lectures.
- Developed a Python **automation** that **streamlined lab grading** and enhanced logistics for the entire teaching team

Full Stack Developer Intern 07/2023 – 08/2023
EngageSense *Vancouver, BC*

- Designed & Developed demo app for a B2C customer engagement platform, featuring product feedback rewards, discussion threads, and promotions using Python (Flask), React, and MongoDB.
- Configured and tested the web app, **containerized** it using **Docker**, and **deployed it on AWS Lightsail**

Technical Projects

Universal Pathfinder AI | *Python (NumPy, OpenCV)* 07/2023 – 08/2023

- Developed a Pathfinder AI using Python that works on any navigational image (eg: images of mazes or streetmaps)
- Implemented OpenCV **image skeletonization** with a custom-made algorithm to recognize and model pathways
- Implemented a pathfinding algorithm based off of Djikstra's Algorithm, and **optimized** it for **path length** & **runtime**.

Visual Dog Breed Classifier Model | *Python (Tensorflow, Keras, Convolutional Neural Networks)* 06/2023 – 07/2023

- Built a Convolutional Neural Network (trained on the Stanford Dogs Dataset) capable of classifying images of dogs into one of **120** different dog breeds. Tuned Hyperparameters, performed validation runs, and achieved **74% testing accuracy**.

PhazeRo Data Science Challenge | *Python (NumPy, Pandas)* 06/2023 – 06/2023

- Placed among **top 5** candidates in annual PhazeRo Data Science & Programming challenge, with time & space optimal solutions for all algorithmic problems on the challenge
- Used NumPy & Pandas to clean, manipulate, and identify patterns in the given BMI dataset. Finally created a linear regression model capturing the relation between GNI per capita and BMI, with a 2.13 kg/m^2 MAE

Vancouver Rain Forecasting Model | *R (dplyr, tidyverse, ggplot), KNN Regression, Jupyter Notebooks* 10/2022 – 12/2022

- Led a team of 4 through a project performing a thorough data analysis on Vancouver Rainfall
- Using the insight from the analysis, built a machine learning model with KNN regression to predict rainfall in Vancouver; **achieved a testing RMSPE of 4.61 mm**, with general trends captured accurately for all 12 months.

TeenB - Skills based Social Networking app for students | *Full Stack - Flutter, Firebase* 10/2019 – 01/2021

- Designed, developed (using Flutter), and deployed a **cross-platform mobile app** called TeenB, which connects students with skills to users and small jobs requiring those skills
- Set up Firebase backend (Firebase Auth + Firestore + Cloud Storage) to **store and query user-data and user-generated content**, and optimized read/write operations using NoSQL best-practices
- Designed and implemented live **user-to-user chat** for the app, including sending media and connection requests.
- Project showcased in Expo 2020 Dubai and won GEMS Global Innovation Challenge 2019 (among **400** teams)

ClickScribe - Medical Prescription Software | *Python, Selenium, Excel, REST APIs* 05/2019 – 08/2019

- Designed & developed medical prescription & database app to digitize medical prescriptions.
- Added **search suggestions** and prescription saving to accelerate the prescription process
- ClickScribe has been used by doctors to produce **3000+** prescriptions so far, for over **350** patients.

Education

University of British Columbia 09/2022 – 06/2026
*Bachelor of Science (BSc) in Computer Science - **92.7% GPA** - Dean's Honour List* *Vancouver, BC*

International Major Entrance Scholarship (IMES) 09/2022
***$80,000** amount awarded to the **top 5%** incoming international students at UBC*

J. Fred Muir Memorial Scholarship 09/2023
Offered to UBC students in the Faculty of Science on Faculty recommendation