Prajval Malhotra

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Education

University of Waterloo	Waterloo, Ontario
Bachelor of Computer Science, Digital Hardware Specialization (2ND YEAR, GPA: 3.7)	September 2020 - May 2024

- **Relevant Coursework -** *Functional programming, Algorithm Design and Data Abstraction, Linear Algebra, Calculus I II, OOP, Testing, Bash Scripting*

Skills

Languages	Python, C, Racket, HTML5, CSS3, Javascript
Frameworks	React, React Native, Tensorflow, Node.js

Experience

Trinity Group	Remote
Software Engineering Intern	May 2021 - June 2021

- Worked with the entire project team to balance creative objectives with business needs and technical requirements.
- Worked with frameworks such as React Native, React.js, Node.js, Express.js, and MongoDB
- Created frontend of app with React Native, 500+ users on a daily basis. Made minor changes to previous designs.
- Worked on backend with Node.js, Express.js. Wrote Unit and Integration tests using Jest.

Coding tuitions	Kolkata
Tutor	March - July 2020

- Taught basic C++ syntax, OOP principles to high school students online during the lockdown.
- Helped clear and streamline concepts for computer science exams.

Projects

Covid Aggregator ⭘	TOHacks
React Native, Node.js, MongoDB	June 2021

- An app to provide a user with information about available vaccine centres near them, people willing to donate useful resources
- Created REST API with Node.js, Express.js and used MongoDB for the Database. Shows data from vaccine centres across the country
- Used React Native to create the frontend. Deployed API to Heroku. 🔗
- Originally created frontend in a group setting of 3 people for TOHacks, personally pursued the project to make it a fullstack app.

MNIST gesture recognizer ⭘

Tensorflow	July 2021

- Used Tensorflow to create a gesture recoginzer trained on the MNIST dataset
- Increased accuracy by using CNNs to upto 98%, measured accuracy of model with testing dataset
- Used trial and error to determine the best ratio of trial vs test data

TodoTDD ⭘

Javascript, Test Driven Development	August 2021

- Used a Test Driven approach to develop a REST API for a Todo app with Node.js and Express.js
- Created Unit tests and integration tests with Jest, wrote tests for error handling
- Created mock Mongoose models in Node.js with Jest

HVAC Controller ⭘

VHDL	July 2021

- Designed combinational logic component for a home Energy Monitoring Controller
- Created simulations and came up with edge cases to test proper functioning of code
- Utilized VHDL concepts like Structural and Dataflow styles, learnt how to work with software - Quartus Prime

Nice Chat App ⭘ 🔗

React.js, Firebase	July 2021

- Real time chat app, Firebase for Google authorisation, Realtime Database and backend. React.js for the frontend.

Live User Counter ⭘

Dart, Firebase	August 2021

- Component which keeps track of when a user opens/exits an app to keep track of the total number of users currently online

Bots ⭘ ⭘	EngHacks
Python	June, 2021

- UWFlow Bot - A reddit bot that replies to mentions of a UWaterloo course on the UW subreddit and replies with course infromation.
- SpotBot - Utilized OAuth2 with Flask to get a users playlist and display it on the discord chat when a particular command is entered.