Amir Tootooni

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SKILLS

PROGRAMMING

Over 5000 lines:
Java • C • Python
Javascript • Verilog • LaTeX

Over 1000 lines:
C++ • Matlab • R • Assembly

Frameworks:
Flask • Jekyll • Altera Monitor

Tools:
Git • ANTLR • Gurobi
NuSMV • MCMAS • Travis CI

EDUCATION

UNIVERSITY OF BRITISH COLUMBIA

MSc in Computer Science
Dec 2022 | Vancouver, BC

UNIVERSITY OF BRITISH COLUMBIA

BASc in Computer Engineering
May 2020 | Vancouver, BC
4.33 / 4.33 GPA

Relevant Courses:
Algorithms and Data Structures
Computer Vision
Digital Systems Design
Formal Verification
Intelligent Systems
Machine Learning
Operating Systems
Software Engineering

LINKS

tootooni.ca
Linkedin
GitHub
Facebook

EXTRACURRICULAR

BRAZILIAN JIU-JITSU

Student since Nov 2018
Vancouver, BC
Before the pandemic, had the privilege of training under Marcus Soares.

PROJECTS

PARASEEK | Medical Hardware

Sep 2019 – Jun 2020
Python, OpenCV, Raspberry Pi

- Worked in a multidisciplinary group of computer, electrical, and biomedical engineers
- Designed, developed, and tested an economical medical device that uses the inherent autofluorescence of parathyroid glands to identify them during thyroidectomy
- Constructed the image processing software that ran on an Raspberry Pi and advised on the hardware design
- ParaSeek was successful in 6 separate ex-vivo (and 3 separate in-vivo) tests and costs less than $1000
- Results were published in the American Journal of Surgery. Article at `https://doi.org/10.1016/j.amjsurg.2021.03.005`

SMARTENDER | React Native Application + Hardware

Jan 2019 – Apr 2019
JavaScript, Express, Python, Raspberry Pi, AWS

- An automated bartending machine controlled by a mobile application aimed to reduce lines at clubs and bars
- Utilizes BarCoin, a blockchain based cryptocurrency, as a secure payment system. Complete documentation can be found at `https://bit.ly/3jlrMHL`
- A demo video of Smartender: `https://youtu.be/o8KIC-9Z7Os`

EXPERIENCE

UNIVERSITY OF BRITISH COLUMBIA | Research Assistant

Sep 2020 – Present | Vancouver, BC

- Working with Prof. Joel Friedman in the theory group within the computer science department
- Current problem considered mainly concerns new information theoretic formulations of coded caching
- Tasks mainly involve developing software to check hypothesis and attempting to prove the ones we suspect to be true
- Other research areas include algebraic graph theory, graph expansion, Markov networks, and game theory

UNIVERSITY OF BRITISH COLUMBIA | Teaching Assistant

Sep 2018 – Present | Vancouver, BC

- Teaching assistant for 5 Terms over 4 different computer engineering and computer science courses
- Held office hours and answered questions in online discussion forums
- Wrote and marked exercises/exams

AWARDS

Graduate Teaching Assistant Award in The Department of Computer Science	2021
Dean's Achievement Award in Engineering	2020
NSERC Undergraduate Student Research Award	2019
James Yan Award in Electrical and Computer Engineering	2018
SFU Faulty of Applied Science Excellence in Mathematics Award	2016