Varunan Varathan

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SUMMARY OF QUALIFICATIONS

Computer Engineering & Finance Minor Candidate at McMaster University who is passionate about microprocessor design, algorithms, robotics, and embedded devices.
Professional experience using object-oriented languages, developing artificial intelligence applications, web/mobile app development, assembly programming and backend development

PROFESSIONAL EXPERIENCE

Software Developer | H.H. Angus & Associates Ltd. May 2022 – Sept 2022

- Worked with colleagues in the digital services team in a dynamic environment to create technical solutions to healthcare and engineering applications using cloud infrastructure and introducing software-based workflow management tools
- Led project to transition from COTS & On-Premises Document Management Solutions to Cloud-Based In-House Software
  - Created various programs in **Python/C#** for **Autodesk** Environments - reduced export & "clean-up" processes by 98%
  - Worked with various **AWS** environments to create data analysis tools and explored upgrading on-premises infrastructure to cloud-based solutions to facilitate **Machine-Learning** and **Relational Database** applications

Research Analyst | Noolaham Foundation July 2020 – Sept 2020

- Researched the impacts of the Sri Lankan civil war on literacy rates with **Data Analysis Tools & Webscraping Tools**
- Converted PDF primary sources into spreadsheets and visualizations | Created an algorithm that was able to accurately retrieve data from pdf documents and make interactive visualizations using Pandas, NumPy and Plotly

PROJECTS

Projects and Interests:

- **Surgical Tool Sterilization System (Autodesk Suite, Python)**: Designed a device with a robotic arm that stores, sterilizes, and retrieves surgical equipment, ensuring proper cleanliness and ease-of-use for hospital staff and technicians.
- **Autodesk Revit Extensions (Python/C#/WPF)**: Improved workflow by creating Autodesk Tasks
- **Peregrine Bot (Python, AWS)**: Discord Bot that verifies links for malware – designed a user interface in React and AWS
- **Data Science Frameworks**: Learning about MatPlotLib, Tensor, Pandas, GeoPandas, Selenium, NumPy

EDUCATION & UNIVERSITY INVOLVEMENT

McMaster University | Bachelor of Computer Engineering (GPA: 9.4/12 or 3.5/4.0) Expected April 2025

- Working towards a **Major in Computer Engineering & Society (B.Eng)** with a **Minor in Finance**
- Courses taken: Circuits, Logic Design, Algorithms, C/C++, Probability & Statistics, Data Structures and Engineering Design

MacChangers - Economic Growth, Environmental Sustainability, and Prosperity Sept 2021 – Apr 2022

- Researched economic and financial challenges in the Greater Hamilton Region and potential solutions in teams of four
- Took initiative in interviewing local businesses and analyzing primary sources to understand the city's demographics
- Created a mobile/web interface that makes environmental incentives and emission data accessible to Hamilton residents

DeGroote Finance and Investment Council (DFIC) – Quant Analyst Nov 2021 – Present

- Working in the Quant Team at DFIC in areas of Risk Management and Data Analysis to study market trends
- Using software tools like Python and QuantConnect to assess market trends and manage assets

SKILLS & DEVELOPMENT EXPERIENCE

- Software Development Knowledge in:
  Python + Pip/Libraries | C/ C++ | JavaScript (HTML/CSS), TypeScript, Node.JS |C# | Quartus II/Verilog | Assembly
- Experience in Engineering/Design & Project Management Tools such as:
  Figma | Notion | Autodesk AutoCAD/Revit/Inventor | GitHub | VS Code | Google Suite | Microsoft Excel/PowerBI
- Leadership experience through Toastmasters International's Public Speaking Initiative to facilitate access to communication and team-building events at the H.H Angus Workplace
- Teamwork and Collaboration skills built in design project groups at 1P13 McMaster Design Studio to create prototypes and simulations using software development and 3D CAD Design