Anthony Fakhoury . Jarvis Consulting

I am a recent honors graduate from the University of Toronto. I majored in Electrical and Computer Engineering and double minored in Biomedical Engineering and Engineering Business. I am actively engaged in self-directed initiatives, focusing on Full Stack development, embedded programming and AI. I have successfully designed and implemented a variety of projects such as a collection of minor websites and embedded programs. I developed classic arcade games like Brick-Breaker using Verilog and Snakes & Ladders in C and ARM on the DE1-SOC FPGA. Additionally, I created a fully interactive Geo Map using C++. I designed a comprehensive system to generate pressure-based heat maps. My effective communication and leadership skills ensure I can make a positive impact in any project. During my nearly 16-month tenure at ADI, I became proficient in multiple coding languages, including C, Python, Doxygen, Yoda, and Jinja. This experience honed my teamwork and time management skills, allowing me to successfully manage multiple concurrent projects, including unit test testing, API development, and an automated code rendering program. In essence, this opportunity served as a rigorous training ground that expanded my knowledge across all facets of engineering. My work received accolades from superiors, and I evolved into a reliable team member, offering assistance and guidance to colleagues seeking help with various tasks.

Skills

Proficient: C/C++, Python, Java, Linux/Bash, RDBMS/SQL, Agile/Scrum/SDLC, Git, Jira, Confluence, Embedded Systems, Network Engineering, System and Network Security

Competent: MATLAB, HTML, Javascript, Verilog, ARM/Assembly

Familiar: CSS, jQuery, Bootstrap, Jupyter, AI/ML

Jarvis Projects

Project source code: https://github.com/jarviscanada/jarvis_data_eng_AnthonyFakhoury

Cluster Monitor [GitHub]: Engineered a solution aimed at capturing and logging hardware and usage statistics from server hosts into a PostgreSQL database for real-time monitoring and analysis. This system caters primarily to system administrators and IT professionals, facilitating proactive management of server performance and resource utilization. Leveraging Bash scripting, the system automates data collection using common Linux commands (lscpu, vmstat, df) to gather critical hardware details such as CPU architecture, model, speed, and dynamic usage statistics like memory availability and disk space. PostgreSQL serves as the backbone for persistent data storage and management, ensuring robustness in handling collected data. Version control and collaboration are managed through Git, ensuring efficient tracking and management of project iterations. This streamlined approach enhances infrastructure management capabilities, offering a scalable solution for optimizing system performance and enabling informed decision-making through comprehensive monitoring and analysis. Utilizing PostgreSQL and Docker for setup, implementation involves rigorous testing methodologies: manual testing verifies SQL query results, while integration testing ensures compatibility between database schema and queries. Deployment leverages Docker for PostgreSQL instance setup, with GitHub Actions employed for version control and continuous integration. Documentation and progress tracking are managed through a dedicated GitHub repository, ensuring transparency and collaboration throughout the project lifecycle.

Core Java Apps [GitHub]: Grep App: Developed a `grep`-like tool in Java to recursively search through files, identify lines matching a regular expression, and write the results to an output file. Implemented two versions: one using traditional Java I/O and another with Java 8 Streams and lambdas. Utilized core Java, SLF4J for logging, Maven for project management, and Docker for containerization. Conducted manual testing by preparing sample data and running various test cases to verify accuracy. Improved application performance by processing files line by line to optimize memory usage. Created a Docker image to facilitate easier distribution and consistent execution across different environments.

Highlighted Projects

Brick-Breaker and Snakes & Ladders: Designed and coded classic arcade games on DE1-SOC FPGA: brick-breaker using Verilog and snakes & ladder in C and ARM.

Geo Map: Made a fully interactive map loaded from an API database able to find shortest paths (A*, traveler's salesman, etc.) in C++.

InSoul - Feet Pressure Sensor Mapping: The design aim to gather data in order to diagnose foot problems and verify insoles effectivness. The design is made up of four components: the sensor array, data acquisition (DAQ) board, software,

and chassis. These four components are integrated to generate a pressure-based heat map, representing the total pressure of either one or both feet on the sensor. The sensor array was purchased from an external party, but the circuit, PCB, firmware, software, and chassis were all designed internally by InSoul.

Professional Experiences

Software Developer, Jarvis (June 2024 - present): At Jarvis, I underwent rigorous training and completed projects led by industry experts. This period significantly enhanced my technical and soft skills. I gained hands-on experience in Linux, SQL, GIT, SDLC, and design patterns. I worked extensively with Java. My training also included data analytics using SQL and Python. Collaborating with Tech Leads and professionals, I drastically improved my coding skills in Java, Python, and SQL. This experience also helped me unlock new potential, boost my confidence, and develop leadership abilities.

Computer Engineer, Analog Devices Inc. (May 2021 - Aug 2022): I contributed to ADI's latest Direct RF Converter project. This device contains multiple high speed ADCs and DACs along with DSP blocks for a complete system on chip. Our group is responsible for developing customer facing C APIs that allow configuration and control of the device. Some of the projects done are Unit test development, Doxygen implementation, C-API development, YODA register map processing and cataloguing, Guided and assisted the incoming PEY students in various tasks and training.

Education

University of Toronto (2018-2023), Bachelor of Applied Sciences, Electrical and Computer Engineering - Dean's List (Fall 2020, Winter 2021, Fall 2022, Winter 2023) - CGPA: 3.5/4.0 - Graduated with Honors - Major in Computer Engineering - Minor in Engineering Business - Minor in Biomedical Engineering - Served as Class Representative

Miscellaneous

- Supervised Machine Learning: Regression and Classification From DeepLearning.AI and Stanford Online
- Advanced Learning Algorithms From DeepLearning.AI and Stanford Online
- Unsupervised Learning, Recommenders, Reinforcement Learning From DeepLearning.AI and Stanford Online
- Responsive Web Design From freeCodeCamp
- JavaScript Algorithm and Data Structures From freeCodeCamp
- Polylingual: Fluent in English, French, Spanish and Arabic
- Mathematics/Logic: Reward in school mathematics competition Kangourou des Maths as 1st in country
- Karate: 3rd in Kuwait National school Karate Championship
- Football: Won an inter-school competition in soccer
- Guitar: Certified for 4 years of guitar learning
- Singing: Chosen to sing for the inauguration of a children hospital
- Acting: Drama Club and school plays
- Boyscout: Routier and Chef in Scout du Liban guiding 100 kids on the scouts way of life
- Travel and culture enthusiast: Visited and lived in numerous countries covering North and Central America, Europe and Middle-East
- Huge cinephile, music and videogame enjoyer