Abdulla Sadoun

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Education

Dalhousie University Halifax, NS

Bachelor of Engineering: Electrical and Computer Engineering Sep 2021 - April 2025

Relevant Courses: Microprocessors - Computer Architecture - Security - Networks - Real Time Systems - System Analysis

Experience

Milton - Lockheed Martin

- Architected and deployed a scalable microservices ecosystem using Docker containers for ML model orchestration, separating training, inference, and data processing components, improving system maintainability and scalability.
- Designed and implemented cloud-native ML model architecture and deployment infrastructure, enabling independent scaling and management of each model while maintaining integration with the main Django application and leveraging AWS for model training.
- Developed an NLP-powered document analysis system using transformer models to extract KSAs (Knowledge, Skills, Abilities) from technical documentation, reducing manual analysis time by 80%.
- Collaborated with cross-functional teams to implement data preprocessing and model training pipelines, ensuring high-quality training data for improved model accuracy.
- Designed and implemented load balancers and REST APIs gateways for inter-service communication between services and models, documenting the architecture, monitoring and logging for real-time analytics.

CPU Emulator -XM23p

- Developed an emulator for the XM23p CPU, successfully emulating 300+ assembly codes based on Motorola's Harvard architecture.
- Gained expertise in Computer Organization, assembly code, linkers, loaders, and fetch-decode-execute cycles.
- Utilized Git/GitHub for version control, ensuring code accuracy and effective documentation.
- Implemented advanced SDLC practices, including unit and integration testing.
- Created automated testing pipelines with GitHub Actions for early issue detection.
- Authored comprehensive documentation on emulator design, testing procedures, and compliance.

Self Navigating Robot - lead

- Led the development of a self-navigating robot using ROS2 and NAV2, achieving a 60% speed advantage and 84% course completion rate.
- Served as Scrum Master, applying Agile methodologies for collaboration and task prioritization.
- Enhanced Linux proficiency in a development environment with publisher-subscriber architecture in a Real Time Operating System.
- Conducted cost and risk analysis to inform project decisions.
- Developed a thorough test plan, documenting system performance and validation.
- Utilized Rviz and Gazebo for simulation, and applied Python for automation and control.

Delay in Aviation Analysis - Why are airlines always late? (Python)

- Analyzed 100,000+ flight delays using Python, Matplotlib, and Pandas to develop preventive measures.
- Conducted cost and risk analysis to enhance flight scheduling and operations.
- Demonstrated adaptability and critical thinking in complex data challenges.
- Gained experience with cloud platforms for potential future deployment of analysis tools.
- Applied advanced programming skills to process and analyze large datasets effectively.

Autonomous Self driving vehicles simulator (C)

- Developed a self-driving vehicle simulator focusing on delivery performance under varying parameters.
- Collaborated in an Agile environment, facilitating iterative development and task prioritization.
- Conducted cost and risk analyses for optimal simulator outcomes.
- Demonstrated strong problem-solving and technical writing skills for reporting results.
- Utilized Git/GitHub for version control and managed changes effectively.
- Designed testing environments to evaluate performance and integrated a database for simulation data management.

Skills & Interests

Technical: System & Circuit Analysis and Design, Reverse Engineering, Automation/Optimization of processes, Computer Security.

Languages, frameworks and technologies: C/C++, Embedded C, AVR assembly, Python Data Analysis tools, flask, Django, Pytorch, Tensorflow, Linux and Real Time Operating Systems.

Interests: Automotive Restoration, Repair and maintenance (Electrical/Mechanical Systems) as well as body work. Interest in Electronics' embedded systems, signal and intersystem communication of everyday personal and commercial IoT devices.