MUSTAFA BAYIRLI

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Systems-Driven Computer Engineer with hands-on experience in AWS cloud solutions, automation, and secure system design. Proven expertise in backend development, Infrastructure as Code (IaC), and scalable application development. Adept at Agile collaboration, CI/CD pipelines, and scripting (Python/Bash) to deliver high-impact solutions for mission-critical systems. Passionate about learning and implementing security best practices in cloud environments.

EDUCATION

Bachelor of Applied Science: Computer Engineering with Co-op Program
University of Ottawa — *Ottawa, ON*

TECHNICAL SKILLS & QUALIFICATIONS

Software Development & Cloud:

- **Backend Development**: Python, Java, C/C++, JavaScript, RESTful APIs, PostgreSQL, SQL
- **Cloud & DevOps**: AWS, Kubernetes, CI/CD, Infrastructure as Code (IaC), Linux, Microservices
- **Security & Compliance**: Secure coding, Automated Compliance (Symboleo), Secure System Design, JUnit Testing
- **Scripting & Automation**: Python, Bash, TypeScript, Infrastructure as Code (IaC)

Embedded Systems:

- **FPGA/ASIC**: VHDL, Verilog, SystemVerilog, RTL Design, Altera DE2-115
- **Hardware Tools**: Altium Designer (PCB Design), Oscilloscopes, Logic Analyzers

Developer Tools: Git, Bitbucket, Trello, Altium, Quartus II, Vivado, JTAG, Oscilloscopes

WORK EXPERIENCES

Junior IT Analyst (Co-op) — **Sept 2022 – Dec 2022**
Innovation Science and Economic Development Canada — *Ottawa, ON*

- Optimized IT service workflows using data-driven automation, reducing resolution time by 15%.
- Authored technical documentation (Knowledge Base articles), improving IT Service Desk efficiency by 20%.

Analytical Lab Managment (Co-op) — **Jan 2022 – April 2022**
National Research Council Canada (NRC) — *Ottawa, ON*

- Designed a Linux-based lab management system, improving operational efficiency by 25%.
- Trained users on embedded platforms, increasing compliance by 30%.

Software Developer (Co-op) — **July 2021 – Oct 2021**
University of Ottawa — *Ottawa, ON*

- Developed automated compliance checks using symbolic logic (Symboleo), reducing bugs by 40%.
- Collaborated in Agile cycles to refine deployment processes for a critical system.

ACADEMIC PROJECTS

Emergency Urban Search and Rescue Robot | *Capstone Project*

- Developed an ARM-based (Raspberry Pi4) robot with real-time AWS cloud integration.
- Built a React/Node.js web interface for remote control, demonstrating end-to-end system design.

FPGA UART | *Digital Systems Course Project*

- Designed a traffic light controller using VHDL & Finite State Machine (FSM), reducing signal errors by 20%.
- Implemented UART protocol on an Altera FPGA, enabling serial data transmission.

IDP Simulator & Data Collection | *Real Time System Course Project*

- Developed a solar nano-grid simulator using BeagleBone Black, managing GPIO/ADC/SPI interfaces.
- Documented system architecture with Doxygen and tracked tasks via Agile tools (Bitbucket, Trello).

Gee-Gees Dental Clinic Website | *Analysis and Design of User Interfaces Course Project*

- Developed a secure, responsive web application with appointment booking functionality using React.
- Implemented client-side validation and user authentication flows to demonstrate security awareness.
- Followed User-Centered Design principles to optimize accessibility and usability.

e-Hotels Management System | *Databases I Course Project*

- Built a scalable hotel booking system using Java, PostgreSQL, and MySQL, handling real-time transactions.
- Designed RESTful APIs for seamless frontend-backend communication.