Mustafa Alshehab

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Software Engineer

A seasoned software engineer with over 6+ years of industry experience in various domains including DevOps, web and desktop applications, and embedded systems. Has a passion for technology and a drive to excel in every project. Works seamlessly with teams or independently with a proven track record of success. Provides a dynamic leadership style to take charge of projects from inception to production, delivering exceptional results on schedule and within budget. Thrives under pressure and remains laser-focused on executing project deliverables with the utmost attention to detail.

AREAS OF EXPERTISE

DevOps | Automation | CI/CD | GitHub | Python | C/C++ | C# | PowerShell | Bash | Validation | Firmware
Software Development | Embedded Systems | Debugging | Containerization | RESTful API | Networking
Performance Analysis | Docker | Kubernetes | Jenkins | Qt/QML | Windows | Linux | Leadership

PROFESSIONAL EXPERIENCE

Intel   📍 **Hillsboro, OR**   **December 2021 - Present**

Automation | Wireless Validation: Python | C# | Windows | HLK Certification | WiFi | Bluetooth
Led the development and maintenance of automation solutions that enable efficient Windows certification of Intel wireless connectivity drivers (Wi-Fi | Bluetooth) using Microsoft WHQL/HLK (Hardware Lab Kit). Worked in tandem with cross-functional teams to ensure driver compliance, identify and report issues.
- Collaborated with cross-functional teams to expand internal Microsoft Partners API capabilities, enabling seamless automation of critical business functions.
- Led the development of a new solution to fully automate the interaction with Microsoft Partners API, resulting in up to 75% increased efficiency and less errors when distributing submission to OEMs.
- Successfully managed multiple nightly testbeds for WiFi and Bluetooth, ensuring a 99.9% uptime rate for our clients during critical product launches.
- **Leveraged Knowledge** in Python, C#, PowerShell, .NET Framework, HLK, Automation, Testing, Validation, Git, ssh, remote desktop, network sharing, GitHub, VS Code, RESTful API

DevOps | Data Visualization | Data Analysis: Docker | Kubernetes | Ansible | Python | Linux | Bash
Enhanced and streamlined the integration, enablement, testing, validation, optimization, benchmarking, and creating performance collaterals using Intel Xeon CPUs and its competitors to showcase platform features and bolsters customer confidence. In addition,, supported and maintained Intel Container Experience Kit project which simplifies the installation and configuration of Kubernetes clusters on Intel Architecture.
- Developed and maintained comprehensive workload performance collaterals, ensuring accuracy and timely delivery, to showcase platform features, resulting in increased customer interaction and adaptation.
- Improved Wazuh workload execution efficiency by 73%, resulting in a substantial reduction of benchmarking time, validation processes, operational cost, and increased availability of resources.
- Identified and reported a security threat in the Git history of an external software release, safeguarding our clients' integrity, preventing costly repercussions, and maintaining trust in our products.
- Organized a technical sharing session discussing the System Activity Reporter (SAR) and its integration with the Workload Service Framework, promoting knowledge exchange among participants, and increasing performance analysis productivity.
- Led a successful microservices hackathon, fostering collaboration and reducing redundancy among internal teams by promoting early exposure to microservices and enhancing our internal catalog.
- Started and finalized "FAQ Revamped" initiative, streamlining information accessibility for the Workload Service Framework project, thereby enhancing team efficiency and overall productivity.
- **Leveraged Knowledge** in Docker, Kubernetes, Automation, Integration, Testing, Validation, Python, Bash scripting, Linux, KPIs (key performance Indicator), SAR (System Activity Report), EMON, htop, Windows 10, Ansible, Jinja, Git, SSH, VNC, XDR, Microsoft VS Code, Excel, PowerPoint, AWS.

onsemi   📍**Beaverton, OR**   **June 2018 – November 2021**

Embedded Systems | Firmware Development| Back-end Development: C/C++ | Bluetooth | TCP/IP | Qt/QML
Increased support for Strata Developer Studio platforms to include bare-metal Microcontroller Units (MCUs) and supported the overall project development process. Additionally, developed and tested new features to expand functionality and enhance user experience.
- Developed a feature for Strata Developer Studio to communicate with a client wirelessly within the local network, an addition to the existing wired USB connection. Resulting in enhanced user experience and increased customer adoption.
- Developed a firmware for bare-metal MCUs enabling serial communication with Strata Developer Studio increasing the number of Strata enabled MCUs.
- Ensured the ongoing maintenance and support of Strata Developer Studio's development process.
- Developed a firmware with both BLE GAP peripheral/central roles and GATT server/client roles to search, connect, and exchange data with other BLE devices.
- **Leveraged knowledge** in C/C++, TCP/IP, Bluetooth, Wireless Connectivity, Qt/QML, CMake, Git, ARM Cortex-M3, ARM toolchain, Memory Pool, Debugging, Oscilloscope, Digital Multimeter, and JTAG.

DevOps | Validation | Automation: Docker | Jenkins | CI/CD | Python | Linux | Windows| SDK | Qt installer
Led Hello Strata project from its inception to completion, focusing on accelerating the Strata Developer Studio environment setup, deployment process, and firmware development process. The project aims to enhance user experience and foster more efficient software development practices. In addition, developed, automated, and executed comprehensive test plans for hardware, and applications to ensure product quality.
- Reduced building time of Strata Developer Studio by 70% after the initial build, significantly improving development productivity time and reducing operational costs.
- Transformed Strata Developer Studio deployment process with end-to-end automation using Python, Jenkins, Bitbucket pipeline, and PowerShell. Resulting in 60% reduction in deployment time.
- Reduced dependencies conflict by 50% by eliminating multiple OS build support utilizing Docker containers. As a result, our team saw substantial improvements in the firmware development processes.
- Automated firmware build process by using Bash scripts, CMake, and a modified VS Code user interface.
- Created and maintained Linux Ubuntu Docker image with the tools/dependencies to build firmware.
- Reduced start of Strata development time by 90% by making an SDK installer with concise documentation.
- **Leveraged knowledge** in Docker, Jenkins, CI/CD, Automation, Validation, Bitbucket Pipeline, CMake, Windows WSL, Python, JavaScript, Bash, PowerShell, Linux, MacOS, Windows 7/10, Qt Installer, Inno Installer, VS Code.

Front-end Development: Qt/QML | React | Redux | MongoDB
Developed numerous user interface components using Qt/QML and React framework specifically tailored to support Strata Developer Studio functionality and enhancing user experience.
- Developed QML interface for MQTT protocol along with a GUI for quick evaluation.
- Developed React components to show graphical analytics data to be used in the main analytics page.
- Developed a PoC of Strata client and Strata server GUI to demonstrate wireless connections functionality.
- **Leveraged Knowledge** in Qt/QML, JavaScript, C++, NPM, React, Redux, MongoDB, HTML, CSS.

Oregon State University   📍**Corvallis, OR**   **September 2016 - March 2017**
Teaching Assistance
 Supported the academic needs and learning experiences of students for the Computer Science II course.
- Assisted the professor in proofreading assignments and provided suggestions for improvements.
- Evaluated student learning through the grading of assignments and delivery of constructive, detailed feedback and facilitated weekly student assistance sessions to support academic growth and improvement.

EDUCATION

Bachelor of Science, BS, in Electrical and Computer Engineering, Oregon State University, Corvallis, OR