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Shreyansh Kumar

Software Developer

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Latest Version of this Resume

Experience

IIoT Software Engineer **January 2024 — Present**
Schlumberger (SLB) *Houston, TX*

- Develop containerized edge services in Go, Python, C#, and C++ for standardized communication between industrial hardware and cloud systems, deployed across thousands of edge devices for oil & gas clients.
- Engineered a high-throughput, asynchronous reporting system with runtime-configurable, redundant queues, boosting performance to 500x while eliminating read-write conflicts.
- Integrated local user authentication using Keycloak and OIDC to ensure secure, online-offline capable identity management on edge devices.
- Led testing and integration of new edge hardware, coordinating cross-company debugging efforts with engineers from four partner vendors to resolve driver, firmware, and protocol interoperability issues, achieving seamless OS integration and expanding supported hardware offerings by 100%.
- Work extensively with protocols such as MQTT, OPC UA, Modbus (TCP & RTU), and NATS to enable robust data exchange across IIoT environments.
- Collaborate in Agile teams with hardware and software engineers, providing engineering support to application developers and enterprise clients.

Undergraduate Research Scientist **March 2023 — December 2023**
National Aeronautics and Space Administration (NASA) *Baltimore, MD*

- Collaborated with NASA scientists and engineers to design and implement a comprehensive simulation of the 5-year AXIS space telescope mission, including instrument configurations and observation scheduling.
- Collaborated with the NASA team to define and test mission requirements and orbit constraints, ensuring the simulation accurately reflects real-world conditions and physical constraints of the observatory.
- Utilized IBM CPLEX software to optimize the scheduling for the mission, taking into account various dependencies and constraints.

Student Research Assistant - Astro Polarimetry **October 2022 — December 2023**
University of Maryland, Baltimore County Dept. of Physics *Baltimore, MD*

- Enhanced UMBC Observatory's Telescope Control System for remote operation and integration with Astro-Polarimetry equipment, alongside a student-faculty team.
- Developed and implemented an optimized scheduler using Astropy and Astroplan python libraries to plan observation targets efficiently, complemented by the addition of a Data Computer and upgraded camera system with Guide Acquire Module compatibility for improved data collection and control.

Software Engineering Intern **June 2022 — December 2022**
Zededa Inc. *Remote*

- Developed applications for Distributed Edge devices using Docker Container and/or Virtual Machine technology on EVE-OS within the ZEDEDA Developer Program.
- Contributed to the comprehensive product and API documentation in the Zededa Help Center, creating instructional materials for EVE setup, hardware onboarding, and application lifecycle management with Zedcontrol.

Education

Bachelor of Science in Computer Science, *University of Maryland, Baltimore County (UMBC)* 2023

- Minor: Economics
- Honor: Cum Laude
- GPA: 3.675 / 4.0

Skills

Languages	Go, Python, C/C++, C#, x86 & ARM Assembly, HTML, CSS, R, Git, LaTeX
ML Libraries	Numpy, Scikit-learn, TensorFlow, PyTorch, Pandas, Matplotlib
Hardware	RPi, Industrial PCs, Servers, VMs, VDE
Operating System	Windows, MacOS, Linux, Unix, EVE