Andres Restrepo

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Work Experience

Software Engineer II   Sierra Nevada Corporation   Centennial, Colorado   January 2024

- Developed features and provided bugfixes in services on a full stack environment that used Typescript and React on the frontend, .NET 6.0 on the backend, and SNMP for hardware interactions against a software defined radio.

- Developed a Java based application that acted as middleware between gRPC clients and services subscribed to a Kafka message broker.

- Conducted a trade study that evaluated the suitability of using Kubernetes to deploy existing services, documented results explaining scalability requirements and provided a set of helm charts as proof of concept.

- Lead a team of 4 Software Engineer Interns in an effort that used Ansible, Bash, Python and Docker Compose to automate the deployment and the configuration settings of over 15 microservices.

- Mentored 5 Software Engineer Interns in the timespan of two summers, successfully lead 3 members of this internship cohort into full time positions.

Software Engineer I   Sierra Nevada Corporation   Centennial, Colorado   August 2022 - January 2024

- Designed and implemented a backend message exchange framework using C++, PInvoke and .NET 6.0; this framework was used as one the main libraries on over 10 microservices that spanned over 2 different projects.

- Created a micro frontend prototype for a React application using Webpack's Module Federation Plugin; this micro frontend prototype later turned into a reusable frontend core app that got extended by 2 different teams.

- Developed a C# based application that simulated orbital data and transmitted data via protobuff messages over a TCP based connection.

- Maintained CI/CD pipelines for the hosting, building and packaging of code using Bash, Bamboo, Bitbucket, Docker, Curl, Jfrog, Maven, Npm, .NET 6.0 and Webpack.

- Maintained the deployment files used in demonstrations to internal teams and to external customers; successfully supported demonstrations that resulted in the acquisition of 3 different contracts.

- Maintained Docker files for microservice applications, deployed event driven micro services using Docker Compose.

- Mentored 2 Software Engineer Interns in the timespan of two summers, successfully lead both interns into full time positions.

Engineering Technician   Terumo BCT   Lakewood, Colorado   December 2021 - July 2022

- Used a proprietary C++ based domain language to develop finite state machine routines that tested the life expectancy of medical devices and their subassemblies.

- Used Python to develop scripts that performed the transferring of large sets of data logs within a local area network.

- Used Python to develop numerical method solutions that transformed the raw output of sensor signals into meaningful units.

- Used bash to automated tasks in single board computers that used a custom Linux distribution.

- Maintained a set of configuration files that handled the CAN bus infrastructure of hardware testing fixtures.

Software Engineering Intern   Terumo BCT   Lakewood, Colorado   July 2021 - December 2021

- Used a proprietary C++ based domain language to develop finite state machine routines that commanded the pneumatic layouts and sensor state of medical devices.

- Used Python to develop scripts that performed the analysis and visualization of sensor outputs retrieved from data logs.

Teaching Assistant   Metropolitan State University of Denver   Denver, Colorado August 2020 - December 2020

- Held virtual sessions in which I tutored the students of senior level mathematics courses, used LaTex to present solutions to exams and proposed problems in class.

Education

Bachelor of Science   Metropolitan State University of Denver   Denver, Colorado

- Major: *Mathematics*; Minor: *Computer Science*; Honors: *Cum Laude*.

- *Mathematics Coursework*: Discrete Mathematics, Probability and Statistics, Probability Theory, Linear Algebra, Abstract Algebra and Numerical Analysis.

- *Computer Science Coursework*: Data Structures and Algorithms, Computer Graphics, Machine Learning, and Software Development Methods.