

Alejandro Martinez Gonzalez

Software Engineer

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Colorado School of Mines graduate looking for full-time opportunities. Computer Science undergrad with a specialty in Data Science and Machine Learning. Eager to learn and apply concepts on any workload stack on any platform or application.

WORK EXPERIENCE

Dish Wireless – Littleton, CO
Data Engineer

Oct 2022 – Present

Work in a Scrum team to deploy observability on the country wide platform, part of the PaaS team.

- Deployed multiple highly available multi region Confluent Platform Kafka Clusters, ranging from throughputs of 100 TB per day to 10 TB per day. Adopted Confluent provided Terraform and Ansible pipelines to the company's fully air gapped AWS environment triggered by GitLab. Enforced security best practices enabling SSL client communication with the platform's Private Certificate Authority. Adopted RBAC authorization with LDAP authentication and migrated previous MSK and Confluent clusters with Cluster Linking.
- Architected, administered and developed the observability team's GitOps pipelines and GitLab approval and ownership merge rules. The lightweight Ansible pipeline deploys approved data pipelines to PySpark nodes and Airflow Dags to its corresponding nodes by hand without the use of a NFS.
- Integrated a homemade Ansible DataDog Agent installation pipeline to ease monitoring instance metrics on the DataDog Platform.
- Developed key Performance Metric data pipelines using Apache PySpark of daily TB throughputs to Apache Kafka for client consumption or datastores such as S3, RDS, Redshift, etc.
- Developed Fault Metric data pipelines using Apache PySpark with Apache Kafka topic compaction on IDs to comply with Prometheus Alarm FM format. Fully consumed topic to preview a current alarm log list on DataDog.
- Participated in VMWare Explore 2023 sponsored by Dish Wireless, attended multiple sessions on VMWare Cloud, K8s, Application Monitoring, Security, Automation, Networking and Architecture.

CS @ Mines – Colorado School of Mines, Golden, CO
DEC-Tech Teacher Lead & U-Climb Mentor

May 2019 – Jan 2020

Two different contracts separated between Summer 2019 and Fall 2019. As a DEC-Tech Teacher lead, I was responsible for:

- Creating curriculum for a Summer Camp to teach Computer Science principles to Camp participants.
- Teaching Computer Science principles to the participants every day of the camp while ensuring participants at different levels would be passionate and challenged with the classes.
- Between camp classes aided the department reach ADA compliance within their web applications by contrasting colors and including mobile compatibility for the hearing impaired.

The U-Climb Mentor contract was a Teaching Assistant job for CSCI 101, while also a mentor job for newcomers to the Computer Science department. It included:

- Teaching and aiding during lectures and hosting office hours for the students.
- Creating review sessions for exams and grading exams and assignments.
- Meeting with mentees to ensure the transition into the department is smooth and simple while keeping a friendly, but also professional, relationship with them.

Outsized Opinions – Burbank, CA
Freelance Part-Time Consultant

Jan 2022 – Present

Worked on several features and projects aiding a small family owned business deploy and maintain their web application. Providing guidance and assistance on demand.

- Created email confirmation for new users, including the HTML formatting embedded within it.
- Migrated database from SQLite to a production ready PSQl database. Created backups, relations, and handled conflicts within the existing data ending in a secure and dependable database.
- Migrated platform out of AWS Lightsail on request. Beginning with the Integration environment to start applying better practices for better performance and enablement of future horizontal scaling.
- Performed a knowledge transfer on a future Well Architected Framework for the product hosted in AWS. Which included topics such as high availability and disaster recovery with low RTO and RPO. It also included CICD Automation for the platform for multi-cloud considerations and future feature deployments.

EDUCATION

B.S. Computer Science – Data Science
Colorado School of Mines

May 2022
GPA: 3.018 | Major Specific GPA: 3.25

PROJECT EXPERIENCE

Lunar Outpost CSM Field Session – Golden, CO

May 2021 – Jun 2021

In a team of five, developed an end-to-end solution for a Lunar Rover using a TurtleBot and Raspberry PI for the robot itself, a python backend with a PSQl database and a web application for controlling the TurtleBot remotely. My task in this team was developing the backend stack for the Raspberry PI connectivity and communication with the Web Application frontend controller.

- Created a communication between the two hosts with unknown IP addresses, hosted a ‘Rendezvous Point Server’ in Python which had a static IP address. Then each of the two components would automatically push their information to the server and be stored within a PSQl database.
- When either component would like to communicate, it would send a GET request to the Python server and the server would retrieve the information from the PSQl database with the SQL Manager Library and send the requested IP address to establish direct connections with the sockets.
- Used simple Python sockets to begin communications between the Web Application client and TurtleBot.
- Implemented both boot routines for the Web Application and the TurtleBot to assure the connection will always be in the datastore.
- Awarded ‘**Most Technical Project of Field Session 2021**’.

OTHER POSITIONS & SKILLS

AWS Certified Solutions Architect Associate – Littleton, CO

Sep 2023

AWS Certified Cloud Practitioner – Littleton, CO

May 2023

CS@Mines Justice, Equity, Diversity and Inclusion representative – Golden, CO

Jan 2021 – Dec 2021

Native from Spain and also a citizen in the United States of America.