# Alejandro Maza Villalpando

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## Summary

Highly motivated and experienced Data Architect with a strong background in data pipelines, data modeling, and cloud computing. Skilled in Python, SQL, and cloud platforms such as AWS and Azure. Proven experience in designing and developing data architecture solutions, with excellent communication and collaboration skills. Seeking a challenging role to leverage my skills and expertise in data architecture and cloud computing.

## About Me

I am a curious person with a diverse set of hobbies, including yoga, salsa dancing, and rock climbing, reflecting my passion for physical and mental well-being. Beyond these activities, I am an avid learner and voracious reader, and I find joy in expanding my knowledge. Traveling and immersing myself in different cultures has been an integral part of my life, I have spent the last 11 years residing in various European cities including London, Glasgow, Krakow and Copenhagen. This time has not only broadened my perspectives but has also enriched my adaptability and appreciation for diversity.

## Education

**Master of Science in Computational Physics** Copenhagen University
*2021 – 2023*
Coursework: Applied Statistics, High-performance parallel computing, Inverse problems, Advanced Applied Statistics

Thesis: Machine Learning Methods for Predicting Stellar Parameters in Realistic Molecular Cloud Environments

**Bachelor of Science in Physics** University of the West of Scotland
*2015 – 2019*
Coursework: Complex analysis, Statistical mechanics, Partial differential equations

## Technical Skills

**Programming Languages**: Python, C++, SQL, MATLAB

**Cloud Platforms**: AWS, Azure

**Data Tools**: Docker, Jenkins, PowerBI, ETL

**Database Management Systems**: SQL, NoSQL

**Data Modeling**: Data Modeling Tools and Methodologies

**Data Integration**: Data Integration Techniques

**Data Governance**: Data Governance and Quality Principles

**Data Security**: Data Security and Privacy Regulations

**Machine Learning**: CNN, LLM Development

## Experience

**Internship in Mesh Firm** February 2024 to April 2024
*Machine Learning Engineer*
Developed a vector database for Retrieval Augmented Generation application using Pinecone

Created an API with Fast API with post and get methods for LLM chat application, using Langchain, Langraph, OpenAI, and Lama3

Monitored LLM agents' functionality and token usage with Langsimth

**Part-time Job in Precure** August 2022 to September 2023
*Data Engineer*

Established a CI/CD pipeline using Jenkins for streamlined project development and deployment

Developed a CNN system leveraging TensorFlow to detect and exclude noisy EMG signals

Configured and managed Linux servers for efficient data processing and analysis

Conducted a comparative analysis of EMG signals from different materials using Python and LaTeX, to improve material durability

Designed and implemented Docker images and containers for the ETL data processes, ensuring scalability and reproducibility

Ensured GDPR compliance by modifying segments of the ETL process using Python

Created data analytic dashboards using Power BI, providing insightful visualizations for finished project analysis

**Junior Data Engineer in Keller Williams** November 2020 to August 2022

Implemented alerting mechanisms for the ETL pipeline of the Keller Williams website using Python, Jenkins, and Jira, enhancing real-time monitoring and issue identification

Resolved bugs in the ETL pipeline, employing a skill set that includes Python, AWS, Linux, and Oracle technologies

Conducted data mapping tasks in Oracle, ensuring seamless integration and accurate representation of data across the system

Data analysis of effectiveness of alters in catching issues in the pipeline

**Part-time Probe Physicist in Novosound** July 2018 to August 2019

Constructed and tested ultrasound probes using Novosound’s innovative piezoelectric materials, contributing to the development of cutting-edge medical imaging devices

Modeled computer and mathematical ultrasound waves using Onscale, enhancing understanding and optimization of ultrasound-based systems