Andres Alvarez Pineda

Data Engineer — Solutions Architect
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Education

Instituto Potosino de Investigación Científica y Tecnológica **Aug 2022 – Jul 2023**
Diploma in Applied Artificial Intelligence *San Luis Potosí, Mexico*

- Completed coursework in Machine Learning Modeling, Probabilistic Reasoning, Reinforcement Learning, Supervised and Unsupervised Learning.

Universidad Autónoma de San Luis Potosí **2015 – 2019**
Bachelor's Degree in Biomedical Engineering *San Luis Potosí, Mexico*

- Studied core modules including Digital Image Processing, Audio Signal Processing, and Pattern Recognition.

Experience

Impulso 3.0 **Jun 2024 – Present**
Azure Data Solutions Architect *Remote*

- Engineered and implemented a scalable payment system using Azure Functions and Azure Queue Service, ensuring high availability and reliability.
- Architected a Data Lakehouse solution utilizing Azure Data Factory, Azure Storage Account, and Databricks, enabling efficient data ingestion, transformation, and analytics.
- Developed the solution architecture for an exchange platform leveraging Azure services to support secure and high-performance trading operations.
- Enforced network compliance and security by configuring Azure VPN Gateway and Azure Firewall to isolate and protect infrastructure components.

Impulso 3.0 **Sep 2023 – Jun 2024**
Data Engineer / Azure Developer *Remote*

- Designed and executed end-to-end data infrastructure to support scalable and automated analytics pipelines across financial data sources.
- Created ETL workflows using Azure Logic Apps and Azure Container Instances for real-time and batch data ingestion and processing.
- Built custom data pipelines using Python to clean, transform, and standardize data collected from diverse financial APIs and sources.
- Led the integration of Azure cloud services to ensure secure, scalable storage and data flow between internal systems and reporting tools.
- Worked closely with stakeholders to define data architecture and ensure high availability and maintainability of the data ecosystem.

Projects

Decentralized Payment System for Trust Funds | *Azure Functions, Azure Queue, Python, Tron, Ethereum* **2024**
∗ Developed a scalable payment system using Azure Functions and Azure Queue Service to facilitate automated crypto transactions.
∗ Integrated Tron and Ethereum blockchain networks to execute USDT payments within a trust fund web application.
∗ Reduced transaction fees from $4.20 to $1.72 per transaction by designing and implementing a custom payment processing protocol using Azure Functions, Azure Queue, and blockchain integration.

Data Lakehouse Pipeline | *Azure Data Factory, Azure Databricks, Azure Storage Account* **2024**
∗ Designed and implemented a Data Lakehouse architecture to enable robust, scalable data engineering workflows.
∗ Used Azure Data Factory for ingesting structured and unstructured data from multiple sources.
∗ Leveraged Databricks for distributed transformation and analysis, with Azure Storage as the central data repository.

Automated Trading Bot | *Python, Azure Container Instances, NumPy, SciPy* **2023**
∗ Reduced manual trading response time from 3 hours to 5 minutes by developing and deploying an automated trading bot using Azure Container Instances, Python, and exchange APIs.
∗ Enabled data ingestion from exchange APIs, real-time price processing, and strategy execution using Python.

Technical Skills

Programming: Python (Pandas, NumPy, Scikit-learn), SQL
Cloud & DevOps: Azure (Functions, Data Factory, Databricks, Logic Apps, Queue Service), Docker, CI/CD Pipelines
Data Engineering: ETL Pipelines, Data Warehousing, Data Lakehouse Architecture
Version Control: Git, GitHub
Operating Systems: Linux (CLI), Windows