Eduardo Alejandro Aviles Jimenez

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Full-Stack Software Engineer with expertise in front-end, back-end, and Machine Learning technologies. Passionate about leveraging ML DevOps and CI/CD pipelines to drive innovation and efficiency. Proven track record of developing AI-driven solutions that align with business goals. Creative problem-solver excelling in collaborative and cross-functional environments.

Education

Systems Engineering — Jan 2005 - Sept 2011
Universidad De San Carlos De Guatemala

Work Experience

LoanPro — ***Machine Learning Engineer*** Jun 2022 - Present
- Implemented a Loan Creation Monitor, cluster user behavior, and identify anomalies, improving tenant targeting.
- Developed an anomaly detection system that reduced tenant noise data by 25%, filtering irrelevant events allowing the business to focus on critical insights.
- Created per-tenant smart threshold calculation, considering data distribution, multiple modes, skewness, and kurtosis, optimizing sensitivity for better decision-making.
- Built automated model workflows with continuous training (CT) and model validation to monitor online model performance, preventing model degradation.
- Developed a custom data pipeline for training and inference, using ECS and Fargate for scalability and reliability.
- Implemented a custom LLM AI assistant to summarize and analyze loan data and provide insights and recommendations,

BairesDev - HipTrain — ***Senior Software Engineer*** Aug 2021 - Jun 2022
- Led infrastructure, architecture, and CI/CD pipelines for back-end and front-end solutions, improving deployment times by 30%.
- Developed scheduling and reservation core system for training classes, improving schedulingby 80%.
- Built custom generic calendar invite logic for scheduling, improving integration and user convenience.
- Implemented a chatbot using Amazon Lex, which automated 40% of customer inquiries and improved user interaction efficiency.
- Led and managed back-end and infrastructure projects, ensuring scalable architecture and seamless integration with existing systems.

LogMeIn — ***BI/ML Developer*** Apr 2016 - Dec 2021
- Developed infrastructure and architecture of core internal tools for data integration and ETL with multiple data sources, improving data processing capabilities.
- Built microservices to support custom ETL solutions, enhancing scalability and reliability.
- Implemented machine learning algorithms for internal product enhancements, leading to a 20% increase in prediction accuracy.
- Developed a Twitter sentiment analysis tool for live tweet extraction and data streaming, which provided valuable insights for marketing and customer service teams.

SSNAPP (Social Media Gateways) — ***Senior Software Developer*** Sep 2014 - Apr 2016
- Led and managed the transition from monolithic architecture to microservices using Netflix OSS, increasing system scalability by 50% and reducing downtime during peak usage by 20
- Led a team of engineers to optimize back-end infrastructure and implement cutting-edge AWS solutions, reducing infrastructure costs by 30%.

Skills

- **Languages:** Java, Python, TypeScript, JavaScript
- **Libs/Frameworks:** Node.js, React, SolidJS, SolidStart, NestJS, Spring Boot, FastAPI, Django, Flask, Nameko
- **Machine Learning:** Scikit-Learn, TensorFlow,Keras, MLFlow, Pandas, DVC, Weights& Biases, LlamaIndex
- **Cloud and DevOps:** AWS , Docker, Kubernetes, Terraform, Jenkins, CloudFormation, Ansible, GitHub Actions, Heroku
- **Databases:** PostgreSQL, Redis, RethinkDB, DynamoDB, Redshift
- **Other Tools:** Git, RabbitMQ, Netflix OSS

Awards and Certificates

Hackathon/LoanPro — ***First Place*** - Apr 2024
- Loan monitoring system that utilized clustering and anomaly detection techniques to improve tenant targeting.

Hackathon/LogMeIn — ***First Place*** - Jul 2018
- Created an LSTM-based neural network to predict customer churn, leveraging advanced recurrent neural network architectures to solve critical business problems related to customer retention. Also voted as developers' choice.

Nano Degree — ***Machine Learning DevOps Engineer*** Jan 2022 - Apr 2022
- Implement production-ready machine learning pipelines, automate data workflows with **CI/CD**, use tools like **FastAPI**, **MLFlow**, **Weights&Biases**, and track model performance to prevent model degradation.

Nano Degree — ***Cloud DevOps Engineer*** Jul 2019 - Aug 2020
- Deploy and maintain infrastructure as code (IaC) securely using **CloudFormation** and **Ansible**, create **CI/CD** pipelines with **Jenkins**, and operationalize scalable microservices with **Kubernetes**.

Nano Degree — ***Artificial Intelligence Nanodegree*** Jan 2018 - Jul 2018
- AI algorithms, search optimization, planning, and pattern recognition.

Nano Degree — ***Deep Learning Nanodegree*** Jul 2017 - Aug 2017
- Built and deployed models for image classification, sentiment analysis, and face generation, using neural networks, convolutional neural networks (CNNs), recurrent neural networks (RNNs), and generative adversarial networks (GANs).

Technical Projects

LoanPro — 🔒 ***Loan Monitoring System*** Jan 2024 - Present
- Designed and deployed a system to monitor loan creation, cluster user behavior, and identify anomalies, using **MLFlow**, **Python**, **Pandas**, and **Scikit-learn**. Structured data pipeline for Training and Inference with **ECS** and **Fargate** for scalability and reliability.

LogMeIn — 🔒 ***Sentiment Analysis on Twitter*** Jan 2024 - Present
- Created a real-time sentiment analysis tool for social media, allowing for better-informed marketing campaigns and customer service responses.

Personal — ***Predict Customer Churn*** Jan 2024 - Apr 2024
- Implemented a Python package to predict customer churn, adhering to PEP8 standards, and incorporating best practices for modularity, documentation, and testing.

Personal — ***ML Pipeline for Rental Price Prediction*** Jan 2024 - Apr 2024
- Developed an end-to-end machine learning pipeline for short-term rental price prediction in NYC, including data fetching, validation, training, and deployment, automating retraining on a weekly basis.

Personal — ***Dynamic Risk Assessment System*** Jan 2024 - Apr 2024
- Set up automated processes to ingest data, score, re-train, and re-deploy ML models for risk assessment, ensuring models remained accurate and up-to-date.

Personal — ***Face Generation using GANs*** Jan 2017 - Apr 20217
- Built and trained a custom GAN architecture on the CelebA dataset to generate realistic human faces, utilizing advanced techniques like DCGAN, CycleGAN, and StyleGAN.

Speaking Engagements

FaceBook dev Circles, Guatemala — ***Neural Network from scratch*** - March 2019
- Discussed how to implement a neural network without external ML libraries, showcasing fundamental AI concepts with raw Python.

FaceBook dev Circles, Guatemala — ***RNNs and Sequence to Sequence Model*** - Oct 2018
- How to implement a custom RNN-based model to generate fake threads of posts and comments, trained on a dataset from the "Velocidad Maxima" website.

Mayan Linguistic Conference, Guatemala — ***Neural Machine Translation*** - Jul 2018
- Presented on the evolution of text translation and the potential use of neural translation models to translate Mayan dialects, exploring language preservation techniques.

Google IO Extended, Guatemala — ***Generative Adversarial Networks (GAN)*** - May 2018
- Delivered a keynote on the implementation of Generative Adversarial Networks (GANs) for generating fake facial images, demonstrating the versatility of GANs in various applications.