Enrique Areyan www.enriqueareyan.com LinkedIn Profile

Software Engineer and Data Scientist specializing in cloud infrastructure and machine learning. Proven ability to lead technical projects, optimize performance, and collaborate effectively to achieve business goals. Passionate about developing innovative solutions that improve efficiency, scalability, and user experience for all.

EXPERIENCE

Google (Cloud Compute)

Software Engineer

- Seattle, USA Sept. 2023 - Present
- Led the release and qualification of a new cloud infrastructure offering for Google Compute Engine's Trusted Partner Cloud. Successfully defined and implemented a new qualification process for host machines, a critical component ensuring the stability and reliability of the cloud platform. This involved establishing a new division of responsibilities model within a complex environment and securing buy-in from stakeholders across multiple teams.
- Drove org-wide alignment on the new qualification process to ensure comprehensive quality control and smooth onboarding of contributing teams. Presented a technical training session to educate and engage teams, followed up to ensure quality standards were met, and collaborated closely with release program management and partner teams to ensure complete qualification coverage.
- Developed and implemented a streamlined onboarding process for new host software tests. Created a guide to help engineers avoid common pitfalls and consolidated all tests into a centralized dashboard for improved visibility and monitoring.
- Enhanced the team's software release process, improving efficiency and knowledge sharing. Proposed and implemented improvements to the build and release pipeline, including the creation of an interactive training module to accelerate onboarding for new team members. This work was publicly recognized by peers.
- Proactively identified and addressed critical gaps in the error handling and recovery process for host machines in both Google Cloud and Trusted Partner Cloud environments. This work laid the foundation for future development and optimization in a previously neglected area, improving the overall resilience of the platform.
- Co-led the design and implementation of a new command-line interface with automations to streamline operational tasks. This new tool improved accuracy and efficiency by reducing manual errors and inconsistencies, and was publicly recognized by peers.
- Actively contributed to the Google community by conducting mock interviews, demonstrating leadership and mentorship skills. This work was publicly recognized by peers.
- Recognized as a top contributor in a org-wide initiative focused on reducing technical debt. This involved significantly improving documentation to enhance developer productivity.

Petco

Senior Data Scientist and Machine Learning Engineer

Remote, USA

- Nov. 2022 Sept. 2023
- Led the development and implementation of a multi-armed bandit pricing model, achieving a [x%] revenue increase while maintaining customer satisfaction. Successfully collaborated with stakeholders to define objectives and fine-tune the model through extensive simulations.
- Developed an XGBoost-based SKU promotion forecast model, using historical data on promotion duration, discount levels, and sales patterns. Deployed it as a scheduled GCP service for real-time predictions and shared insights through a Looker dashboard. Resulted in an x% boost in promotional sales and streamlined planning processes.
- Led the development of a geo-pricing service that leveraged machine learning to optimize regional pricing strategies. By incorporating clustering algorithms to group regions with similar purchasing behaviors and enhancing elasticity models to estimate price sensitivities, this data-driven approach resulted in a [x%] revenue increase, improved market penetration, and a deeper understanding of regional customer preferences.
- In my role as a technical leader, I provided mentorship to the pricing team, guiding them in adopting MLOps best practices. Through this initiative, we optimized model development, deployment, and monitoring processes, resulting in streamlined workflows and improved collaboration. Additionally, we successfully reduced development-to-production times, enhancing our overall efficiency and responsiveness.

Convoy Inc.

Research Scientist II

- Overhauled the company's carrier-facing matching mechanism. Developed large-scale simulations and proof-of-concept models in AWS' Elastic Container Service (ECS), demonstrating an opportunity to increase margins by 8%.
- Developed a Dynamic Programming based load Machine Learning pricing model. Coded the model in Python as a microservice with Flask. Implemented model using continuous deployment and integration tools (Github+CircleCI). Initial A/B tests showed 12% margin increase with a decrease of 5% on quality related costs.
- Prepared and validated models' input data stored in Snowflake. Develop online input data monitoring tools using Datadog and integrated them with PagerDuty, avoiding stale models reaching production.
- Developed a Bayesian framework for continuous assessment of carrier quality. Launched an A/B test that showed final economic improvement on each match using Bayesian framework. Developed Metabase dashboard to track success metrics. Improved matching cost by \$10 per match.
- Developed a data-driven disaster response simulator that measured changes in supply freight capacity in response to a natural disaster. Presented results to stakeholders in Jupyter Notebooks thus paying the way for future integration of FEMA loads to the marketplace.
- Interviewed and hired (20+ candidates) at the junior and mid-senior levels, directly supporting a thriving community of Research and Data Scientists.
- Contributed to the creation of a framework to translate the app at scale.

Pinterest.com

Marketplace Design Intern

- Developed Reinforcement Learning algorithms to maximize pinners' long-term ad engagement.
- Implemented and validated Airflow PySpark data pipelines to train Reinforcement Learning agent.

National Institute of Advanced Industrial Science and Technology (AIST) Tokyo, Japan

Automated Negotiation Researcher

- Developed an Artificial Intelligence bot that placed 2nd in the International Automated Negotiating Agents Competition (ANAC/SCML), an International competition to advance research on automated agent negotiation.
- Published 2 papers on top-tier Artificial Intelligence venues on Automated Negotiation, Empirical Game-Theoretical Analysis, and Machine Learning-powered Mechanism Design.

Amazon.com

Applied Research Scientist Intern

- Summer 2017, 2018, and 2019 • (2019) Developed Mechanism Design solutions to optimize Sponsored Products' budgeted-constraint ad campaigns, ensuring optimal allocation of advertisers' budget to achieve desired advertising outcomes.
- (2018) Pushed to production a Deep Neural Network to detect ad relevance based on shoppers' queries.
- (2017) Developed a Machine Learning adaptive buying strategy for products with little or no historical information, enabling efficient stock management and improved inventory decisions.

Brown University

Researcher, Computer Science Department.

- Conducted Research on Empirical Game-Theoretic Analysis and Empirical Mechanism Design. Published papers on top-tier Artificial Intelligence venues. Won multiple Artificial Intelligence bot competitions.
- Taught a core undergraduate class in Artificial Intelligence (60+ students), and an introductory class in Computation for the Social Sciences and Humanities (25+ students). Managed a team of TAs for both classes.

Education

Brown University

PhD in Computer Science (specialization: Machine Learning-powered Mechanism Design)

Indiana University

Master of Arts for Teachers in Mathematics (2015). Master of Science in Computer Science (2013)

Universidad Central de Venezuela

Bachelor of Science in Computer Science (specialization: Artificial Intelligence)

Remote, USA

Summer 2021

Oct. 2018 - May 2019

Seattle, WA, USA

Providence, RI, USA Aug. 2015 - May 2021

Caracas, Venezuela

Providence, RI, USA

Bloomington, IN, USA

2021

2010