Martin Navarrete

Senior Software and Machine Learning Engineer
818-480-8769
martin.nv6@gmail.com
4107 San Gerardo, Mission, TX, USA
https://www.linkedin.com/in/martinnv6 | https://www.martinnavarrete.dev

SUMMARY

Innovative Senior Software and Machine Learning Engineer with 12+ years of enterprise backend engineering experience combined with advanced expertise in data science, predictive modeling, and applied AI systems. Holds a Master of Science in Data Science (Dec 2023) from Universidad Autonoma de Nuevo Leon. Proven track record in developing high-throughput distributed systems in C#/.NET Core and Python, designing end-to-end ETL pipelines, training and deploying predictive models, and analyzing large-scale streaming telemetry to optimize cloud infrastructure. Recipient of the 2024 Dell GRIT Award for leveraging data science methodologies to solve complex eCommerce performance and resource-balancing challenges on dell.com serving 100+ countries. Pioneer in engineer-led, AI-augmented software engineering—leveraging GitHub Copilot, prompt engineering, Model Context Protocol (MCP) context patterns, and agentic task decomposition while enforcing disciplined human-in-the-loop validation, hallucination detection, and strict production quality gates. Authorized to work in the US for any employer (TN Visa / USMCA eligible; H-1B transferable).

TECHNICAL SKILLS

- Machine Learning & Data Science: Predictive Modeling, Statistical Correlation Analysis, Regression & Classification, Time-Series Forecasting, Clustering, Feature Engineering, Recommendation Systems, A/B Testing Analytics, Data Visualization, Root Cause Analysis (RCA)
- AI & Agentic Engineering: Model Context Protocol (MCP), LLM Prompt Engineering (Role-Framing, Few-Shot, Chain-of-Thought), Vibe Coding Workflows, Agentic Task Decomposition, Human-in-the-Loop (HITL) Code Review, AI Hallucination Auditing & Correction, Secure AI Prompt Hygiene
- Programming & Frameworks: Python (Pandas, NumPy, Scikit-Learn, SciPy), C# (12+ years), .NET Core 6/8, .NET Framework 4.8, ASP.NET Web API, SQL, LINQ, TypeScript, JavaScript
- Data Engineering & Streaming: ETL Pipelines, Apache Kafka, RabbitMQ, Redis Dynamic Caching & Feature Stores, MongoDB (Aggregation Framework), PostgreSQL, MS SQL Server, Oracle DB
- Observability & Telemetry: Splunk (SPL, Dashboards, Alerting), Dynatrace Full-Stack APM, Tableau, PowerBI, Lighthouse Synthetic Testing, Boomerang Real User Monitoring (RUM)
- Cloud & Infrastructure: Pivotal Cloud Foundry (PCF), Microsoft Azure (VMs, Blob Storage, CosmosDB, Azure ML Studio, API Management), Docker, GitLab CI/CD, Azure DevOps

WORK EXPERIENCE

Senior Software and Machine Learning Engineer

Dell Technologies – Austin, TX

June 2022 - September 2026

Role Description: Engineered distributed Cart and Checkout microservices for dell.com across 100+ countries, integrating advanced data science methodologies into platform operations on PCF.

- Engineered distributed Cart and Checkout microservices for dell.com across 100+ countries, integrating advanced data science methodologies into platform operations on Pivotal Cloud Foundry (PCF).
- Impacted by a corporate workforce reduction in September 2026, concluding tenure as a consistently high-performing engineer and recipient of the 2024 GRIT Award.
- Developed predictive resource-balancing models in Python for PCF container instances, applying time-series and workload analysis to forecast resource exhaustion and optimize automated horizontal scaling.

- Collaborated with Dell's Recommendation Data Science team to refine machine learning feature sets and ranking algorithms for the dell.com product recommendation strip, improving relevance and conversion.
- Designed and maintained automated ETL data pipelines extracting and aggregating eCommerce interaction events from MongoDB collections and Splunk log streams for downstream analytics teams.
- Applied advanced statistical correlation analysis cross-referencing Real User Monitoring (RUM) data from Boomerang, synthetic tests from Lighthouse, and backend traces in Dynatrace and Splunk to isolate client-side Cart TTL latency anomalies across 100+ country deployments.
- Pioneered engineer-led AI-assisted software execution within the Buyer Team: leveraged GitHub Copilot and prompt engineering for accelerated implementation, debugging, and test scaffolding while maintaining strict human-in-the-loop ownership over code correctness.
- Practiced disciplined vibe coding workflows, utilizing AI tools as first-pass code drafting accelerators followed by rigorous manual line-by-line inspection, logic trace analysis, and system contract validation.
- Systematically audited and corrected AI hallucinations—including phantom API methods, improper async/await handling, and LINQ expression bugs—prior to pull request approval.
- Leveraged Model Context Protocol (MCP)-compatible context-feeding patterns to integrate codebase schemas, service contracts, and API definitions into AI tooling for grounded code generation.
- Enforced strict prompt hygiene and corporate security policies, ensuring no PII, secrets, or proprietary Dell IP entered external AI models.
- Built interactive observability dashboards in Dynatrace, Splunk, Tableau, and PowerBI, tracking conversion funnels, Cart health, and latency percentile distributions (P50/P95/P99).
- Designed distributed caching with Redis and event streaming via Kafka and RabbitMQ to maintain sub-second response times during peak holiday traffic surges.

Principal Software Engineer

Alliance IT CJIS – Austin, TX

May 2020 - June 2022

Role Description: Delivered data-intensive platforms and architecture for TechShare judicial systems for the Texas Conference of Urban Counties.

- Architected and implemented data-intensive web applications in .NET Framework MVC/Razor and .NET Core WebAPI with React, integrated with Azure SQL and Entity Framework Core.
- Built automated reporting queries and data extraction modules for legal compliance, tracking caseloads, bail metrics, and courtroom scheduling patterns.
- Deployed Azure Blob Storage, Redis caching, and Docker containers to handle heavy traffic spikes during peak courtroom filing hours.

Principal Software Engineer

Alliance IT Dell – Austin, TX

August 2019 - May 2020

Role Description: Modernized Dell Customer Integration Layer (CIL) gateway from legacy WCF SOAP to .NET Core 3.0 REST microservices, serving 25+ client applications worldwide.

- Built high-performance ETL pipelines aggregating customer master data across SAP, Oracle DB, MySQL, and NoSQL datastores.
- Migrated repositories and deployment pipelines from TFS and TeamCity to GitLab CI/CD and Pivotal Cloud Foundry (PCF).

Senior Software Engineer

Alliance IT PG&E – Walnut Creek, CA

February 2019 - August 2019

Role Description: Architected data aggregation and telemetry microservices in .NET Core for Wildfire Safety and Emergency Decision Support Systems.

- Engineered multi-threaded C# services to ingest, transform, and analyze geospatial and weather telemetry simultaneously from Google Maps APIs, relational databases, and Redis caches.

- Built optimized MongoDB Aggregation pipelines and PostgreSQL analytical queries; executed enterprise database migration from MongoDB 3.4 to 4.0.

Tech Lead & Software Engineer

CEMEX – Monterrey, Mexico

February 2017 - February 2019

Role Description: Technical Leader for CEMEX GO global digital transformation platform, leading the Middleware Layer (.NET) across 8 Go-Lives serving 21 countries.

- Slashed Point of Delivery (POD) summary API response latency from 12 seconds to under 500ms (over 95% reduction) by engineering a Redis caching middleware layer targeting customers with dozens to hundreds of active delivery locations.
- Designed and exposed RESTful APIs using C#, ASP.NET Web API v2, Entity Framework, and Azure API Management for Android, iOS, web, and B2B clients.
- Analyzed SQL Server query execution plans and refactored indexing strategies and stored procedures to resolve high-concurrency database bottlenecks.
- Traveled to Czech Republic and Hungary to conduct technical enablement and train regional engineering teams.

Middle Software Engineer

Interfactura – Mexico City, Mexico

March 2016 - February 2017

Role Description: Engineered Payment Supplement and Invoicing subsystems using ASP.NET MVC and SQL Server.

- Built JUNO B2B financial factoring platform with continuous delivery cycles under Scrum via TeamCity and Git.
- Developed Domain-Driven Design (DDD) frontend modules for insurance Risks platform (CHUBB/ACE/ABA) in HTML5, CSS3, jQuery, and ASP.NET MVC.

ASP.NET Developer & Analyst

CDIS UANL – Monterrey, Mexico

January 2014 - February 2016

Role Description: Developed full-stack Logistics Management Platform in ASP.NET MVC, C#, SQL Server, and AngularJS with route calculation heuristics and Google Maps API integration.

EDUCATION

Master of Science in Data Science

Universidad Autonoma de Nuevo Leon, Monterrey, Mexico

January 2022 - December 2023

Bachelor of Science in Computer Science

Universidad Autonoma de Nuevo Leon, Monterrey, Mexico

June 2011 - January 2014

LANGUAGES

English: Native or Bilingual Proficiency

Spanish: Native or Bilingual Proficiency