



Luke Acosta

Vice President, Data Scientist Lead

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STRENGTHS

- ♥ **Governed AI Delivery**
Built release gates around safety, faithfulness, cost, and access controls; risk partners became regular design collaborators.
- 🔧 **Research With Purpose**
Turned papers on prompting and agents into usable experiments; colleagues sought practical guidance during design reviews.
- 💬 **Clear Stakeholder Translation**
Converted model tradeoffs into plain business choices for banking leaders, helping teams agree on priorities and risks.
- 👥 **Hands-On Leadership**
Led a nine-person practice while staying close to code, architecture, reviews, and production support when delivery mattered.
- ⚙️ **Calm Production Judgment**
Used monitoring, incident plans, and rollback paths during releases; engineering partners valued steady decisions under pressure.

SKILLS

- Generative AI
- Large Language Models
- Natural Language Processing
- Prompt Engineering
- Retrieval-Augmented Generation
- Agentic Workflows
- Content Extraction

SUMMARY

Vice President and Data Scientist Lead with eight years of applied experience delivering machine learning, **natural language processing**, and large language model solutions across financial services operations, analytics, and controls. Advanced computer science training supports hands-on leadership across Amazon Bedrock, Cortex Analyst, Amazon SageMaker, Databricks, Python, PyTorch, pandas, NumPy, and scikit-learn. Leads production programs spanning **retrieval-augmented generation**, semantic search, **content extraction**, question answering, summarization, recommendations, and agentic workflows. Builds governed APIs, pipelines, evaluation frameworks, and **machine learning operations** practices that address accuracy, faithfulness, robustness, latency, cost, safety, and rollback readiness. Trusted by senior leaders, engineers, product teams, risk partners, and commercial banking stakeholders; brings practical judgment, care for users, and enthusiasm for building reliable capabilities that improve service, efficiency, planning, and controls.

EXPERIENCE

Vice President, Data Scientist Lead

HarborPoint Financial Group 📅 September 2023 - Present 📍 Denver, CO

Lead a nine-person data science and applied research practice delivering governed **generative artificial intelligence** capabilities through Amazon Bedrock and Cortex Analyst for commercial banking planning, service, and control workflows.

- Led Bedrock and Cortex Analyst programs for commercial banking planning, service, and control workflows.
- Rolled out retrieval-augmented **question answering** across policy content using embeddings, vector search, and citations.
- Established evaluation gates for accuracy, faithfulness, robustness, latency, cost, **red-teaming**, and **safety checks**.
- Partnered with engineering on FastAPI services, pipelines, containers, testing, CI/CD, and operational runbooks.
- Mentored five data scientists on **prompt engineering**, tool use, **structured outputs**, reasoning, and responsible AI.

Senior Data Scientist

Blue Ridge Capital Markets 📅 January 2021 - August 2023 📍 Charlotte, NC

Owned machine learning and natural language processing initiatives supporting fixed-income research, portfolio reporting, and service operations across fourteen internal business functions.

- Built Bedrock extraction services for obligations, dates, and risk language across 1.2 million records.
- Designed Python retrieval workflows with pandas, NumPy, **scikit-learn**, indexing, and **vector search**.
- Implemented **prompt templates**, model routing, **tool use**, and structured JSON outputs for internal APIs.
- Created SageMaker **experiment tracking**, **model registry**, monitoring, drift review, incidents, and rollback procedures.
- Presented model tradeoffs, risks, latency, cost, and results to investment, engineering, and compliance leaders.

Data Scientist

Crescent Peak Analytics 📅 July 2019 - December 2020 📍 New York, NY

Delivered supervised machine learning and **natural language processing** solutions for asset-management analytics, document intelligence, reporting applications, and client-facing research initiatives.

- Developed **Python** pipelines for transaction cleansing, document parsing, embeddings, and indexed retrieval corpora.

Semantic Search

Question Answering

Summarization Recommendations

Evaluation Methods

Amazon Bedrock Cortex Analyst

Machine Learning Operations

LANGUAGES

English Native

Spanish Intermediate

MY CAREER



● Vice President, Data Scientist Lead at HarborPoint Financial Group (3 Years)

● Senior Data Scientist at Blue Ridge Capital Markets (2.6 Years)

● Data Scientist at Crescent Peak Analytics (1.4 Years)

● Machine Learning Associate at LatticeWorks Solutions (10 Months)

- Compared **PyTorch**, **TensorFlow**, pandas, NumPy, and scikit-learn approaches against analyst-labeled evaluation sets.
- Exposed predictions through tested APIs and scheduled batch processes for reporting applications.
- Introduced evaluation notebooks measuring precision, recall, **faithfulness**, **latency**, and error categories for stakeholders.
- Studied research on prompting, fine-tuning, retrieval, and agent design; converted findings into practical experiments.

Machine Learning Associate

LatticeWorks Solutions 📅 August 2018 - June 2019 📍 Boston, MA

Supported supervised delivery of early machine learning and natural language processing engagements for **financial services** clients under senior data scientist guidance.

- Prepared account and market datasets with SQL, Python, **pandas**, and **NumPy** validation routines.
- Built scikit-learn classifiers and similarity searches against curated samples for nontechnical client reviewers.
- Contributed reusable preprocessing modules, **Git** workflows, unit tests, and **continuous integration** checks.
- Tested chunking, **embeddings**, retrieval thresholds, and source links within a controlled vector-index experiment.
- Presented findings, risks, and next steps in concise readouts for project and engineering leaders.

PROJECTS

Governed Commercial Banking Search 📅 2025

Built a governed search and question-answering capability that connected policy content with clear citations, access boundaries, and measurable evaluation criteria.

Agentic Research Assistant 📅 2024

Created a practical agent workflow using structured outputs, tool use, and multi-step reasoning for research and recommendation tasks.

LEADERSHIP & AWARDS

- Responsible AI Implementation Award, HarborPoint Financial Group, 2025
- Applied Analytics Innovation Award, Blue Ridge Capital Markets, 2022
- Graduate Research Fellowship, Georgia Institute of Technology, 2017

EDUCATION

Master of Science in Computer Science

Georgia Institute of Technology 🎓 GPA: 4.0 📅 2018 📍 Atlanta, GA

Coursework: Machine Learning, Natural Language Processing, Distributed Systems, Data Mining

Bachelor of Science in Statistics

University of Massachusetts Amherst 🎓 GPA: 3.8 📅 2016 📍 Amherst, MA

Coursework: Statistical Modeling, Probability, Regression Analysis, Experimental Design

CERTIFICATIONS

- AWS Certified Machine Learning - Specialty 📅 2024
- Databricks Generative AI Fundamentals 📅 2025
- Snowflake Hands-On Essentials: Cortex 📅 2025

TECHNICAL SKILLS

- **Generative AI Platforms:** Amazon Bedrock, Cortex Analyst, Databricks
- **Machine Learning Cloud:** Amazon SageMaker, AWS, Snowflake
- **Programming Languages:** Python, SQL, JSON
- **ML Frameworks:** PyTorch, TensorFlow, scikit-learn

- **Data Science Libraries:** pandas, NumPy, SciPy
- **Retrieval Systems:** Embeddings, vector search, indexing
- **LLM Methods:** Prompt engineering, fine-tuning, agents
- **Evaluation Methods:** Accuracy, faithfulness, robustness
- **Software Interfaces:** FastAPI, APIs, structured outputs
- **Data Pipelines:** Batch jobs, preprocessing, ETL
- **Engineering Practices:** Git, testing, code review
- **Delivery Automation:** CI/CD, containers, Kubernetes
- **MLOps Controls:** Model registry, drift monitoring, rollback
- **Safety Controls:** Guardrails, red-teaming, safety checks
- **Financial Domains:** Commercial banking, markets, asset management

PROFESSIONAL AFFILIATIONS

- Mentor, Financial Services Data Science Fellowship, September 2024 - Present
- Co-lead, Responsible AI Practitioners Forum, September 2023 - Present
- Reviewer, Internal Machine Learning Standards Council, January 2022 - Present

ADDITIONAL INFORMATION

Work Status : Authorized to work in United States. No sponsorship required.

REFERENCES

AVAILABLE ON REQUEST