

Tiago Henrique Costa Alves

🌐 tiagohca.com

✉ tiagohcalves@gmail.com

🔗 tiagohcalves

📞 31 975345587

Machine Learning Engineer specializing in scalable AI systems, high-throughput data pipelines, and end-to-end model deployment.

ABOUT ME

I am a software engineer specializing in deploying and scaling machine learning models in high-volume environments. I work closely with data scientists to ensure models receive accurate, reliable data and operate efficiently at scale. My expertise lies in handling large-scale data pipelines (terabytes per month) and high-throughput systems (10K+ requests per second), optimizing performance and reliability at every iteration.

I have extensive experience across various machine learning fields, including time-series forecasting, anomaly detection, NLP, and reinforcement learning. As a former data scientist, I developed credit scoring models, medical risk prediction systems, and internal frameworks to enhance data science productivity. I also lead over five teams in building high-quality machine learning systems, mentoring engineers, and driving strategic technical decisions.

I hold a Master's degree in Computer Science from the Federal University of Minas Gerais (UFMG), with a focus on Deep Learning, Information Retrieval, and Recommender Systems. I also spent a year studying at Roma Tre University in Italy..

My professional goal is to serve as both a technical and personal mentor, guiding colleagues and newcomers in the field while creating impactful AI-driven solutions.

EXPERIENCE

Bluecore

Remote

Software Engineer

Jan 2022 - present

- Develop and maintain a scalable, cloud-based recommendation system serving over 10K requests/sec, ensuring minimal latency and maximum availability.
- Build and optimize ML-powered product ingestion pipelines, transforming raw data into structured formats for efficient retrieval.
- Primary maintainer of an Airflow instance, collaborating with data scientists to streamline model training, deployment, and monitoring.
- Improve observability, monitoring, and fault tolerance across ML infrastructure to ensure service reliability.

Kunumi

Belo Horizonte, MG

CTO

Jul 2021 - Jan 2022

- Led multiple teams of ML engineers, focusing on technical mentorship, career development, and team growth.
- Spearheaded hiring, resource allocation, and fostering an engineering culture, ensuring high-impact deliveries across AI-driven projects.
- Defined technical strategy and architectural decisions for ML-based solutions across industries, including finance and healthcare.

Kunumi

Belo Horizonte, MG

Tech Lead

Jan 2019 - Jul 2021

- Managed cross-functional teams to deliver scalable ML solutions in financial risk, healthcare, and logistics optimization.
- Led projects such as:
 - Credit scoring models for digital banking.
 - Risk prediction for health insurance.
 - Fuel optimization for freight transportation.
- Developed internal ML frameworks to improve model development, monitoring, and deployment efficiency.
- Conducted hiring, mentorship programs, and internal training to elevate engineering talent across the company.

Kunumi

Data Scientist

Belo Horizonte, MG

Jul 2016 – Dec 2018

- Designed and implemented ML models for predictive analytics, anomaly detection, and NLP applications.
- Engineered end-to-end data pipelines to preprocess and extract insights from large-scale datasets.
- Developed and deployed ML-powered APIs for clients in finance, healthcare, and enterprise automation.

Sydle

Software Engineer

Belo Horizonte, MG

2016-01-02 to 2016-07-18

- Full-stack developer on a job search engine, leveraging C#, .NET, AngularJS, and Elasticsearch.
- Applied Agile methodologies (SCRUM) to deliver efficient and scalable search solutions.

Sydle

Intern

Belo Horizonte, MG

2015-01-19 to 2015-12-31

- Developed front-end and back-end features for a job search platform, improving UI performance and search accuracy

EDUCATION

Universidade Federal de Minas Gerais

Master in Computer Science

Belo Horizonte, MG

2016 – 2018

- Thesis: Dynamic Prediction of ICU Mortality Risk Using Domain Adaptation
- Fields of Study: Deep Learning, Artificial Intelligence, Information Retrieval, Recommender Systems

CEFET-MG

Bachelor's Degree in Computer Engineering

Belo Horizonte, MG

2010 – 2015

Università degli Studi di Roma Tre

Exchange Student

Rome, Italy

2013 – 2014

SOFT SKILLS

- Leadership
- Communication
- Problem-solving
- Empathy
- Decision-making
- Emotional Intelligence

HARD SKILLS

Machine Learning

- Supervised and Unsupervised Learning
- Deep Learning (Transformers, CNNs, RNNs, GANs)
- Time-Series Forecasting, Anomaly Detection, NLP, Reinforcement Learning
- Model Explainability and Interpretability
- MLOps (Airflow, Feature Stores, Model Deployment, Monitoring)

Software Engineering

- Observability, Reliability, Security
- Software Architecture (Monoliths, Microservices, Distributed Systems)
- Backend Development (Go, Python)
- APIs (REST, gRPC, GraphQL)
- Databases (Transactional, Analytical, NoSQL, Vector Databases)
- Cloud Computing (GCP, AWS)
- Agile Methodologies (Scrum, Kanban, GitFlow)

GenAI & LLMs

- ChatGPT, Gemini, Prompt Engineering, Function Calling
- Retrieval-Augmented Generation (RAG)

LANGUAGES

- Portuguese (Native)
- English (Fluent, Daily Use + TOEFL C1)
- Italian (B2, Studied in Rome)