

Alana Melo

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Brazil

Engineering Manager | Software Engineering Manager | Product & Technology Leader | AI, Cloud & Scalable Systems | Python | Product Strategy

Summary

Engineering & Product Leader with 12+ years of experience leading software teams, scaling engineering operations, and delivering technology products across SaaS, Data, AI, and Cloud environments.

Strong background in software engineering, product management, delivery, and technology strategy, with hands-on expertise in backend systems, cloud architecture, AI-driven solutions, and operational excellence.

Proven track record of:

- Leading engineering teams across Backend, Data, Product, and Delivery functions
- Improving engineering efficiency by 25–35%
- Reducing delivery cycles by 30%
- Supporting products with 10,000+ active users
- Defining and tracking KPIs, OKRs, and delivery metrics
- Building scalable systems, APIs, microservices, and cloud-native platforms
- Driving AI, automation, and process optimization initiatives
- Aligning engineering execution with business and product strategy

Core expertise:

- Engineering Management
- Software Engineering Leadership
- Technical Product Management
- Technical Delivery Management
- AI Products & AI Operations
- Product Strategy & Product Operations
- Backend Engineering (Python, FastAPI, Django)
- Distributed Systems & Microservices
- Cloud Architecture (AWS, GCP, Docker, Kubernetes)
- Data Platforms, Analytics & Automation
- Agile Delivery & Stakeholder Management
- SaaS Products & Operational Excellence

I combine technical depth with leadership and business alignment, helping organizations scale teams, products, and technology operations while delivering measurable business outcomes.

Currently open to remote international opportunities in Engineering Management, Software Engineering Management, Technical Delivery Management, Technical Product Management, and Technology Leadership roles.

Experience

Oryga Consultoria · Self-employed
Product & Engineering Strategy Consultant
May 2025 - Present · 1 yr 1 mo

Minas Gerais, Brasil · Remote

- Led AI, product operations, and technology strategy initiatives for 5+ companies, driving operational scalability and improving engineering delivery performance.
- Worked with Agile methodologies, OKRs, KPIs, backend architecture, APIs, AWS, GCP, automation workflows, and AI-driven operational solutions across product and engineering environments.
- Solved delivery bottlenecks, process inefficiencies, and lack of visibility between engineering, product, and business teams by optimizing operating models and execution workflows.
- Increased engineering efficiency by 25–35%, established and monitored 30+ KPIs, and improved delivery predictability through data-driven execution and process optimization.
- Strengthened cross-functional collaboration, improved strategic decision-making, and enabled scalable product and engineering operations through automation, stakeholder alignment, and AI-driven initiatives.

Sensorweb

Full-time · 6 yrs 4 mos

Product Manager

Aug 2024 - Jan 2026 · 1 yr 6 mos

Florianópolis, Santa Catarina, Brasil · Remote

- Led product strategy, roadmap execution, and cross-functional delivery for scalable digital platforms, aligning product initiatives with business goals and customer needs.
- Worked closely with engineering, data, and business teams using Agile methodologies, Jira, Confluence, Figma, AWS, APIs, microservices, analytics dashboards, and KPI-driven product management practices.
- Solved delivery misalignment, unclear requirements, and product execution bottlenecks by improving prioritization, technical planning, and collaboration between product and engineering teams.
- Improved delivery consistency, reduced rework, and increased team productivity through structured backlog management, data-driven prioritization, and end-to-end product lifecycle ownership.
- Strengthened collaboration between engineering, product, and stakeholders while enabling scalable product growth, clearer execution visibility, and more predictable delivery outcomes.

Product Owner

Oct 2021 - Aug 2024 · 2 yrs 11 mos

Florianópolis, Santa Catarina, Brasil · Remote

- Managed product backlog prioritization, product discovery, and Agile execution, ensuring alignment between business objectives, customer needs, and engineering delivery.
- Worked with backend systems, APIs, integrations, Jira, Confluence, analytics dashboards, Scrum, and Kanban to support product planning and technical requirement definition.
- Solved communication gaps and development inefficiencies by translating business requirements into clear user stories, technical specifications, and actionable engineering tasks.
- Improved sprint planning, delivery consistency, and development clarity while reducing rework through structured backlog management and stakeholder alignment.
- Strengthened collaboration across engineering, product, and business teams, enabling more efficient product execution and scalable Agile operations.

Software Development Manager

Oct 2020 - Aug 2024 · 3 yrs 11 mos

Florianópolis, Santa Catarina, Brazil · Remote

- Led and scaled a team of 14 engineers across Backend, Frontend and QA while driving backend architecture, delivery operations and technical execution aligned with product and business strategy.
- Mentored engineers through career development plans, performance reviews, technical coaching and continuous

feedback, helping improve team performance and professional growth.

- Partnered with Product, Business and Executive stakeholders to align engineering priorities, roadmap execution and organizational goals.
- Worked with Python, microservices, distributed systems, Docker, Kubernetes, AWS, GCP, CI/CD pipelines, DevOps practices, Grafana, Prometheus, ELK, Scrum, and Kanban.
- Solved scalability, delivery predictability, and operational efficiency challenges by improving engineering workflows, architecture standards, observability, and deployment processes.
- Improved engineering efficiency and delivery predictability through process optimization, KPI tracking, Agile frameworks, and automated deployment pipelines.
- Strengthened engineering culture, cross-functional collaboration, and system reliability while enabling scalable and maintainable technology environments.

Data Engineer

Oct 2019 - Apr 2024 · 4 yrs 7 mos

Florianópolis, Santa Catarina, Brasil · Remote

- Designed and developed scalable data pipelines, machine learning solutions, and cloud-based data architectures to support analytics, automation, and business decision-making.
- Worked with Python, SQL, ETL/ELT pipelines, APIs, Scikit-learn, Apache Airflow, Spark, AWS, GCP, distributed systems, and batch/stream processing frameworks.
- Solved data scalability, reliability, and integration challenges by building automated pipelines, orchestrating workflows, and improving data governance processes.
- Processed millions of records monthly while improving data quality, operational reliability, and performance through automation and scalable cloud-based architectures.
- Enabled data-driven product and business decisions by integrating analytics, machine learning, and scalable data solutions into engineering and operational workflows.

Scrum Master

Oct 2020 - Oct 2021 · 1 yr 1 mo

Florianópolis, Santa Catarina, Brazil · Hybrid

- Facilitated Agile delivery processes and supported engineering and product teams in improving execution consistency, collaboration, and delivery performance.
- Worked with Scrum, Kanban, Agile metrics, sprint planning, retrospectives, velocity tracking, cycle time analysis, and continuous improvement practices.
- Solved workflow inefficiencies, team blockers, and communication gaps by improving Agile execution and delivery visibility across teams.
- Increased team productivity and delivery predictability through workflow optimization, Agile metrics monitoring, and process improvements.
- Strengthened collaboration between engineering, product, and business stakeholders while supporting Agile transformation and operational maturity across teams.

Senior Software Engineer

Oct 2019 - Oct 2020 · 1 yrs 1 mo

Florianópolis, Santa Catarina, Brasil · Hybrid

- Led backend engineering initiatives, designing scalable APIs, distributed systems, and cloud-based applications for

data-intensive and real-time environments.

- Worked with Python (FastAPI, Django, Flask), AWS, Docker, CI/CD pipelines, APIs, distributed systems, automated testing, monitoring tools, and cloud infrastructure.
- Solved scalability, reliability, and system integration challenges by improving backend architecture, deployment automation, and observability processes.
- Improved system reliability, deployment efficiency, and operational scalability through CI/CD implementation, cloud optimization, and monitoring enhancements.
- Strengthened alignment between product and engineering teams by translating business requirements into scalable technical solutions and sustainable system architecture.

Universidade Federal de Santa Catarina

5 yr 11 mos

Software Engineer

Full-time

Feb 2015 - Dec 2020 · 5 yr 11 mos

Florianópolis, Santa Catarina, Brazil - Remote

- Developed AI-based and computer vision solutions for human gait analysis, supporting academic research and data-driven experimentation.
- Worked with Python, machine learning models, computer vision techniques, SQL databases, real-time data processing, and analytical pipelines.
- Solved challenges related to movement analysis, image processing, and behavioral modeling by designing scalable data processing and pattern recognition workflows.
- Improved analytical accuracy and research efficiency through automated data extraction, machine learning applications, and structured data processing pipelines.
- Strengthened collaboration between technology and academic research teams, enabling experimental validation and scalable AI-driven analysis for research initiatives.

Teaching Assistant

Internship

Jan 2016 - Jun 2016 · 6 mos

Florianópolis, Santa Catarina, Brasil - On-site

- Supported teaching activities in Industrial Informatics, helping students understand automation systems, backend development, and applied computing concepts.
- Worked with Python, software development concepts, industrial automation systems, technical labs, and practical computing exercises.
- Solved technical learning challenges by guiding students through hands-on activities, troubleshooting exercises, and applied software development scenarios.
- Improved student engagement and practical learning outcomes through interactive exercises and technical support during laboratory sessions.
- Strengthened collaboration between students, professors, and academic teams while supporting technical education and applied learning experiences.

HBS Technics

On-site

Software Engineer

Full-time

Jan 2014 - Jun 2015 · 1 yr 6 mos

Divinópolis, Minas Gerais, Brasil · On-site

- Developed backend systems and integrations for real-time surveillance and monitoring platforms used in operational environments.
- Worked with Python, backend development, SQL databases, system integrations, infrastructure support, and deployment processes.
- Solved system reliability and infrastructure issues by improving integrations, troubleshooting operational failures, and optimizing platform stability.
- Reduced downtime and improved operational continuity through system diagnostics, issue resolution, and deployment support in client environments.
- Strengthened system performance and reliability while supporting scalable operational and monitoring solutions for technical environments.

Grupo ABC Supermercados

1 yr On-site

Junior Software Engineer

Full-time

Mar 2013 - Dec 2013 · 10 mos

Divinópolis, Minas Gerais, Brasil

- Developed commercial automation systems for retail operations, supporting payment processing, checkout systems, and operational workflows.
- Worked with Django, SQL, backend development, retail systems, queue management solutions, and production support environments.
- Solved operational inefficiencies and system reliability issues by improving automation workflows and maintaining critical retail systems.
- Improved checkout efficiency and operational continuity through system enhancements, issue resolution, and user support activities.
- Strengthened adoption and usability of technology solutions by training users and supporting internal operational teams.

Commercial Automation and Information Systems Intern

Internship

Jan 2013 - Mar 2013 · 3 mos

Divinópolis, Minas Gerais, Brazil

- Supported administrative and commercial systems operations, assisting with implementation, configuration, and technical support activities.
- Worked with commercial automation systems, operational workflows, technical troubleshooting, and internal support processes.
- Solved usability and operational issues by assisting teams with system support, configuration adjustments, and troubleshooting activities.
- Improved operational continuity and system adoption through technical assistance and support for daily business workflows.

- Strengthened collaboration between technical and operational teams while supporting stable and efficient system usage across the organization.

HBS Technics

On-site

Administrative Manager

Part-time

Jul 2012 - Mar 2013 · 9 mos

Divinópolis, Minas Gerais, Brasil · On-site

- Managed administrative operations, internal workflows, and business support processes to ensure operational efficiency and organizational continuity.
- Worked with process management, operational reporting, budgeting, performance metrics, and cross-functional coordination activities.
- Solved process inefficiencies and communication gaps by implementing standardized operational procedures and improving workflow organization.
- Improved operational visibility and decision-making through structured reporting, performance tracking, and process optimization initiatives.
- Strengthened alignment between operational and business objectives while supporting organizational stability and scalable internal operations.

Master Internet

On-site

Information Technology Support Specialist

Full-time

Jun 2011 - Jul 2012 · 1 yr 2 mos

Divinópolis, Minas Gerais, Brasil · On-site

- Maintained IT infrastructure and supported systems, networks, databases, and workstations to ensure stable business operations.
- Worked with infrastructure support, database maintenance, troubleshooting processes, system administration, and technical support activities.
- Solved infrastructure and system reliability issues by diagnosing operational problems and supporting maintenance and recovery processes.
- Improved operational stability and continuity through proactive technical support and infrastructure maintenance activities.
- Strengthened system usability and internal support processes while assisting teams in maintaining efficient daily operations.

Key Projects & Contributions

AI Automation Hub — a full-stack platform that automates repetitive tasks using the Claude AI API.

The idea was simple: build something that actually solves real problems and shows what modern AI-powered products look like end-to-end.

What it does:

- Text Summarizer — turns long articles into structured TL;DRs
- Email Generator — drafts professional emails from a one-line brief
- Document Analyzer — returns sentiment, key topics, and risk flags
- Data Extractor — pulls structured JSON from unstructured text

Under the hood:

- Next.js 15 App Router + TypeScript + Tailwind CSS

- Anthropic Claude API (claude-sonnet-4-6)
- Live dashboard with usage metrics and execution history (Recharts)
- Copy-to-clipboard on all AI outputs
- Full REST API layer with 6 endpoints

This project taught me how to design AI-native user flows — where latency, prompt engineering, and output formatting matter as much as the UI itself.

AI-Based Human Gait Analysis and Biometric Recognition System

Designed and developed a software system for human gait analysis using artificial intelligence and computer vision techniques

Built a data processing pipeline to extract kinematic and kinetic parameters (e.g., joint angles, velocity, acceleration, ground reaction forces) from 3D motion data

Implemented a low-cost motion capture solution using Microsoft Kinect, enabling automatic extraction of human movement features

Applied machine learning techniques for pattern recognition and biometric identification, enabling classification of individuals based on gait behavior

Evaluated and compared multiple neural network models and classification approaches to determine accuracy and performance

Developed a system capable of identifying individuals through movement patterns, with applications in security, healthcare, and biometrics

Validated the feasibility of gait-based biometric recognition using real-world data collected from volunteers

Alert Management Department Structuring

Designed and implemented an end-to-end alert management system to improve incident response and operational visibility

Defined workflows, escalation rules, and monitoring processes for critical events

Collaborated with engineering teams to integrate alerting and monitoring tools into daily operations

Reduced alert-related operational costs by 60%+, optimizing resource allocation and minimizing unnecessary escalations

Improved incident response time and service reliability, directly impacting operational continuity and safety indicators.

Built a production-ready URL Shortener API from scratch to practice the patterns that make backends actually scale

Anyone can build an API. The challenge is building one that holds up under real load — with caching, rate limiting, and async processing baked in from day one.

Scalability patterns implemented:

- TTL Cache layer (thread-safe, Redis-ready interface) — eliminates DB reads on hot paths
- Rate Limiting — 20 req/min per IP using slowapi, protecting write endpoints
- Background Tasks — click tracking runs async so redirects are never blocked
- Pagination — page + limit on all list endpoints, prevents unbounded queries
- Health Check — /health with DB probe, ready for k8s readiness probes
- 12-Factor Config — everything via env vars, no hardcoded values

Tech stack: Python · FastAPI · SQLAlchemy · Pydantic v2 · Docker

Test coverage: 9/9 tests passing with pytest + httpx TestClient

The architecture is also designed to scale up: swap SQLite → PostgreSQL and the in-memory cache → Redis with zero business logic changes.

Cloud-Native Architectures

Designed and built a Cloud-Native Microservices Platform — a 4-service distributed system running on Docker Compose with full Kubernetes manifests. I wanted to go beyond "just deploy it" and actually implement the patterns that production cloud-native systems rely on.

Architecture:

API Gateway → Products Service / Orders Service / Notifications Service

Patterns implemented:

- API Gateway — single entry point with request tracing (X-Request-ID) and aggregated health
- Database per Service — each microservice owns its data layer independently
- Service-to-Service calls — Orders validates stock via Products with a 3s timeout (circuit breaker)
- Event-Driven Async — Orders emits domain events; Notifications polls /events (simulates Kafka consumer)
- Readiness & Liveness Probes — all services expose /health, wired into Docker and k8s manifests
- Horizontal Scaling — Gateway and Orders run 2 replicas in Kubernetes
- 12-Factor Config — env vars in Compose, ConfigMap in k8s

Stack: Python · FastAPI · Docker Compose · Kubernetes (Deployment, Service, Ingress, ConfigMap)

IoT Monitoring Platform for HVAC Systems (Backend & Data Integration)

Designed and developed a backend system to collect, process, and expose real-time data from internally developed IoT hardware devices

Built APIs to ingest and normalize sensor data, including temperature, humidity, voltage, current, and energy consumption

Integrated hardware-generated data with a centralized monitoring platform, enabling real-time visualization and analysis

Ensured reliable data transmission and system stability for continuous monitoring of HVAC equipment

Supported predictive maintenance and anomaly detection by enabling structured data flow for critical operational metrics

Contributed to improving equipment reliability and reducing downtime through real-time monitoring capabilities

Process Automation & Workflow Optimization

Automated manual workflows and spreadsheet-based processes, reducing dependency on manual operations

Developed automation routines and integrations to streamline data flow across teams

Reduced operational errors and rework, improving data accuracy and process reliability

Increased execution efficiency of repetitive tasks, reducing processing time by 30–50%

Enabled faster decision-making through improved data availability and process integration.

Process Standardization & Workflow Automation (Zeev Platform)

Implemented automated workflows using Zeev to standardize internal operational processes

Designed structured documentation to ensure traceability, governance, and process consistency

Reduced process variability and improved execution quality across teams

Increased efficiency of recurring processes and reduced manual intervention

Strengthened organizational governance and enabled scalable process management

Software Development Lifecycle (SDLC) Implementation & Team Structuring

Built and structured the software development department from scratch, aligning engineering efforts with business goals

Implemented agile methodologies, including backlog management, sprint planning, reviews, and retrospectives

Defined and tracked KPIs to measure team performance, delivery predictability, and efficiency

Improved delivery timelines and reduced bottlenecks through process optimization and prioritization strategies

Led cross-functional collaboration between product, engineering, and stakeholders to ensure alignment and value delivery

Master's Degree in Automation and Systems Engineering - Universidade Federal de Santa Catarina, Brazil (2015 -2016)

Bachelor's Degree in Automation and Control Engineering - Faculdade Pitágoras, Brazil (2009 - 2014)

Languages

English: Professional working proficiency

Portuguese: Native

Spanish: Limited working proficiency

Skills

Product Strategy | Artificial Intelligence (AI) | Python | Technical Product Management | AI Automation | Cross-Functional Leadership | Backend Development | Engineering Leadership | Technical Leadership | Product Development | Data-Driven Decision Making | Workflow Automation | API Development | Software Architecture | System Design | Scalable Systems | Distributed Systems | Cloud-Native Architectures | Microservices | Cloud Architecture | Solution Architecture | Cloud Computing | Generative AI | LLM Applications | Prompt Engineering | AI Agents | OpenAI API | Machine Learning | AI Product Development | Model Deployment | AWS SageMaker | Data Engineering | Data Pipeline Development | Data Modeling | Data Processing | Amazon Web Services (AWS) | Google Cloud Platform (GCP) | Kubernetes | Docker | Terraform | CI/CD | GitHub Actions | GitLab CI/CD | Apache Kafka | RabbitMQ | Scalability | Product Discovery | Stakeholder Management | Agile Methodologies | Project Management | Engineering Management | Team Leadership | Remote Team Leadership | SDLC | Process Automation & Workflow Optimization | Business Strategy | FastAPI | Django | Flask | SQL | Software Engineering | Software Development | SaaS | Grafana | Prometheus | ELK Stack | Pytest | Apache Airflow | Apache Spark | Computer Vision | IoT Systems |

Additional Information

Holds International Driving Permit – Categories B;

Open to global relocation and remote opportunities.