Fernanda de Macedo

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SUMMARY

Senior Backend Engineer specializing in distributed systems, API integrations, and high-scale data pipelines (Python, Kafka, AWS)

SKILLS

- Languages: Python (primary), Java, C++
- Backend: Django, Flask, FastAPI, Celery
- Data and Messaging: Postgres, Kafka, RabbitMQ, Redis
- Cloud and Infra: AWS, Kubernetes, Docker, ArgoCD
- Observability: Prometheus, Grafana, Graylog
- Core: Distributed systems design, API integrations, event-driven architecture, performance optimization

EXPERIENCE

Center for Astrophysics | Harvard & Smithsonian - NASA ADS   July 2023 - Present
Senior Backend Software Engineer   Cambridge, MA

- Reduced latency ~10× and eliminated timeouts in a high-traffic PDF generation service by removing an image-proxy bottleneck and redesigning data retrieval
- Led cross-service reliability improvements across distributed pipelines, resolving memory leaks, N+1 queries, and retry amplification issues
- Built a distributed data pipeline indexing 30M+ records (Postgres, Celery, S3), driving ~33% of inbound traffic via search integration
- Designed a backend analytics system (Kafka, Postgres, Redis) enabling cross-service query-to-click attribution

Nubank   Nov 2021 - May 2022
Backend Software Engineer   Remote, Brazil

- Led migration of 900+ repositories from Bitbucket to GitHub, building automated validation to ensure CI parity and enabling zero-regression rollout across distributed services
- Modernized the organization's CI/CD by moving pipelines from Jenkins to Tekton and standardizing deployments across engineering teams
- Automated compliance workflows between source control and issue tracking systems, reducing manual audit overhead

Avenue Code   Feb 2021 - Oct 2021
Junior Backend Software Engineer   Remote, Brazil

- Built Python microservices (Django, FastAPI, Postgres) powering a global Order Management System integrating 50+ external marketplace APIs under high transactional load; contributed to decomposition of a legacy monolith
- Implemented event-driven workflows using RabbitMQ for high-volume order processing
- Developed resilient API integrations with third-party marketplaces, handling retries, idempotency, and failures
- Established engineering standards (80%+ test coverage, peer review, CI/CD), improving system reliability

EDUCATION

Universidade Federal do Rio Grande do Norte

Bachelor of Science in Science and Technology   Natal, Brazil
Cornell University
Computer Science, One Year Study Abroad Program   New York, United States