

Raffaele Russo

Nice, France | hello@raffaelerusso.dev | raffaelerusso.dev
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Software engineer building C++ backend and distributed systems for airline pricing and availability at Amadeus, with a focus on performance, caching, and production reliability.

WORK EXPERIENCE

Amadeus | Nice, France

Software Development Engineer

Oct 2025 – Present

- Reduced pricing request latency from **67s to 1.8s** using transaction-level memoization.
- Scaled supported pricing strategy rows per request from 10 to **100,000**, enabling airlines to price large fare portfolios in a single request.
- Designed profile-based cache invalidation for airline availability, with estimated infrastructure savings of **\$80k/month** across the first two customers, based on traffic, CPU usage, and cache hit rates.
- Rebuilt the invalidation pipeline with batching and exponential backoff, cutting a **1-hour workflow to 1 minute** for critical airline operations.
- Restructured upstream request batching, increasing sustained throughput from **7 to 100 transactions per second**.
- Driving design and implementation of an optimization across three distributed applications, resolving timeout and replication defects; projected savings of **\$50k/month**.
- Led on-call operations for airline pricing and caching systems, resolving production incidents and data replication defects across inventory tiers.
- Eliminated redundant signals in Splunk production logs, reducing logging costs by **26%**.

Software Engineer (contractor)

Mar 2024 – Oct 2025

- Built a carbon-aware distributed system prototype on Google Cloud, routing computation to regions with lower emissions using provider data; projected annual CO2 savings of **470 tons**.
- Designed an OpenAPI contract in Stoplight and implemented a C++ REST API for airline origin and destination determination, supporting migration of a legacy system to Azure.

Image Processing Research Group | Naples, Italy

Research Intern

Oct 2023 – Mar 2024

- Investigated diffusion models for master's thesis, focusing on adversarial defenses to protect artist styles against AI mimicry.

SKILLS & TOOLS

Languages: C++, Python, Java

Cloud & Infrastructure: Kubernetes, OpenShift, Docker, Helm, Linux, AWS (CDK), Google Cloud

Databases & Caching: SQL (Oracle), Couchbase, MongoDB, DynamoDB, Redis

Observability & CI/CD: Splunk, Prometheus, Grafana, Jenkins, GitHub Actions, Git

Spoken Languages: Italian (native), English (fluent), French (B1)

EDUCATION

MSc in Computer Engineering

2021 – 2024

University of Naples Federico II | 110/110 cum laude, special mention

BSc in Computer Engineering

2018 – 2021

University of Naples Federico II | 110/110 cum laude

Erasmus Exchange: Tampere University, Finland (Jan 2023 – Jun 2023)

Publications: 2× IEEE Big Data publications (2023, 2024) — European law classification & search engine