

Emilio Del Tessoro

contact

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location

Lucca, Italy

online

linkedin://emiliodeltessa
github://emmmile
gitlab://emmmile
https://emilio.photography

languages

Italian (native language)
English (second language)

programming

♥ TypeScript, Java
Python, C++
Erlang, OCaml

interests

Photography, drawing
Hiking, climbing
Wood working
Anything DIY

profile

Senior Software Engineer and architect with 10+ years of experience with a proven track record of leading company-wide infrastructure initiatives at scale. Deep expertise in distributed systems, database infrastructure, and cloud architecture. Experienced in driving strategic technical decisions, reducing organizational risk, and delivering solutions that influence dozens of engineering teams.

experience

Synthesia

Remote, Italy

Senior Fullstack Engineer, Backend and Infrastructure focus

2023 - 2025

Focused on backend infrastructure, video processing pipelines, and large-scale data lifecycle management for AI-generated video platform.

- Architected and built internal storage system for video assets on S3, improving platform SLO from 95% to 99% by caching millions of assets from external providers. Implemented CDN layer on top for global distribution. Handled complex licensing requirements and error scenarios.
- Achieved 50% improvement in video generation SLO through systematic pipeline optimization and intelligent pre-validation architecture, reducing resource waste and improving customer experience.
- Designed and scaled a proprietary migration framework to transition millions of legacy videos to a modern multi-player format, eliminating technical debt and preventing system-wide regressions during a critical product pivot.

Tech: Python, TypeScript, React, Kubernetes, AWS, MongoDB, Claude code, LLMs, agentic engineering.

Spotify

Stockholm, Sweden / Remote, Italy

Senior Software Engineer, Tech Lead

2018 - 2023

Led technical strategy for Spotify's storage platform, supporting 30+ backend teams and hundreds of developers:

- Led the strategic, multi-year decommission of Spotify global Cassandra footprint. This initiative standardized the company's storage strategy, reduced operational cost, and enabled hundreds of engineers to focus on product-facing innovation rather than database maintenance.
- Drove company-wide business continuity strategy, leading multi-cloud assessment (AWS, Azure, GCP) that identified critical risks and cost opportunities, informing executive infrastructure decisions.
- Designed multi-cloud database abstraction layer, setting strategic direction for Spotify's storage architecture and enabling portability across GCP and AWS.
- Built a company-wide storage analytics platform providing insights that influenced strategic decisions, cost reduction, technology consolidation, and developer productivity.

Tech: Java, TypeScript, React, Kubernetes, GCP (GCE, GKE, GCS, Bigtable, Spanner), AWS (EC2, EMR, DynamoDB), Cassandra, Memcached.

Software Engineer

2016 - 2018

Focused on operational excellence and automation for Spotify's database platform, enabling the company's cloud migration.

- Built a scalable data export solution for Cassandra that became the primary data source for the entire Spotify's data pipeline ecosystem until 2022.
- Key contributor to infrastructure tooling for moving from on-premise to Google Cloud Platform (GCP).
- Developed internal tooling for Cassandra and GCP databases, collaborating directly with Google engineers to shape product direction.

Tech: Java, Python, TypeScript, React, Jenkins, GCP (GCE, GKE, GCS, Bigtable, Spanner), Cassandra.

Klarna

Stockholm, Sweden

Software Developer

2015 - 2016

Contributed to backend development of Klarna's payment platform, focusing on architectural transformation from Erlang monolith to scalable Java microservice architecture for US market operations, handling majority of Klarna's US order volume.

Tech: Erlang, Java, Jenkins, Docker, Riak, Splunk.

SpazioDati and University of Pisa

Pisa, Italy

Backend Developer, Research Fellow

2014 - 2015

Developed and optimized dataTXT, a semantic entity extraction service (Java REST API) for NLP applications. Focused on core algorithm optimization, performance improvements, and built automated accuracy measurement framework for continuous quality monitoring.

Tech: Java, Jenkins, Docker, Lucene, AWS (EC2, S3, SNS), Elastic, PostgreSQL.

CERN

Geneva, Switzerland

Summer Intern

2013 - 2013

Developed C++ monitoring system for the nTOF particle physics experiment, implementing correlation analysis across multiple detector measurements (neutron beam intensity, gamma radiation, etc.) to identify experimental anomalies in real-time.

education

University of Pisa

Pisa, Italy

M.Sc. with honors in Computer Science

2010 - 2013

Thesis: Binary Decision Diagrams for sequences.

I proposed linear time algorithms for indexing all substrings of a text, using Binary Decision Diagrams.

University of Pisa

Pisa, Italy

B.Sc. with honors in Computer Science

2006 - 2010

Thesis: Upper bounds for the rotation distance problem on binary trees.

Explored linear time algorithms for approximating the rotation distance of binary trees, which seems to be an NP-Hard problem.

publications and conferences

Moving from Cassandra to Auto-Scaling Bigtable at Spotify

Emilio Del Tessandoro and Sandhya Ghai

Google Cloud Next, 2019

Cassandra Exports as a Trivially Parallelizable Problem

Emilio Del Tessandoro, Radovan Zvoncek, Malcolm Matalaka, and Björn Hegerfors

Cassandra Summit, 2016

DataTXT at #Microposts2014 Challenge

Ugo Scaiella, Stefano Parmesan, Gaetano Prestia, Emilio Del Tessandoro, and Mario Veri

4th Workshop on Making Sense of Microposts (#Microposts2014), 2014

A Rotation Algorithm Based on Induced Equivalent Edges

Emilio Del Tessandoro, Fabrizio Luccio, and Linda Pagli

Applied Mathematical Sciences 8.10 (2014) pp. 473–486. 2014