Lorenzo Tenti, PhD

Principal Engineer, Data & AI

Profile

Principal engineer building AI-powered products end-to-end, from ideation to production. Designs and ships agentic and LLM-based systems, full-stack architectures, and data platforms. Combines deep infrastructure expertise with a strong product mindset with a focus on rapid iteration, pragmatic design, and delivering real-world impact.

Experience

2024–present **Principal Data Engineer**, *Century Tech*, London, United Kingdom
- Operate in a "startup within a startup" environment, rapidly prototyping and iterating on agentic AI features.
- Build production-grade AI systems for automated feedback and assessment using Pydantic AI, context engineering, structured outputs, and rigorous evaluation loops.
- Architect and ship full-stack products using FastAPI, Next.js, Railway, and Neon, with end-to-end observability through Logfire.
- Establish spec-driven development practices with OpenSpec, aligning product design, implementation, and AI-assisted coding workflows.
- Own the full product lifecycle, from problem definition and system design through deployment and scaling.

2022–2024 **Senior Data Engineer**, *Century Tech*, London, United Kingdom
- Designed and built the company's data platform, including its data lake and Snowflake warehouse, from scratch.
- Built and managed Kubernetes-based infrastructure on AWS using Flux, Helm, and Terraform.
- Developed and orchestrated core data pipelines using dbt and Dagster.
- Productionised machine-learning models by developing the MLOps workflows and infrastructure required to deploy and operate them.

2019–2021 **Data Engineer / Senior Data Engineer**, *Kobalt Music*, London, United Kingdom
- Contributed to migration from legacy Oracle DB to a modern data stack.
- Built ETL pipelines using Spark, Scala, and EMR.

2018 **Big Data Engineer**, *IQVIA*, London, United Kingdom
- Built highly performant and scalable data systems on IQVIA's Big Data Platform (Spark/Hive/Impala/Hadoop).

2017 **Big Data Engineer**, *Cloudwick Technologies UK*, London, United Kingdom
- Data processing and analysis using Scala/Spark on AWS.
- Linux and Hadoop ecosystem administration (Hive, HBase, Sqoop, Oozie).

2014-2016 **PhD in Computational Chemistry**, *University of Ferrara, Italy*, supervisor: Prof. Celestino Angeli
- Developed new computational methods and scientific software (Python, Fortran).
- HPC programming and Linux systems administration.

Projects

AI Writing Assistant Built an LLM-powered system providing instant feedback on student writing. Designed context engineering strategies and structured outputs to ensure consistent and useful feedback. Iterated on evaluation and feedback quality based on real user behaviour. Deployed and maintained a production system used by real users.

Agentic Marking Developed a fully agentic system for automated grading of multi-step maths problems based on mark schemes and reasoning processes. Focused on interpretability and alignment with human marking logic.

lorenzo.tenti@gmail.com • *www.lorenzotenti.com*

Particular Matter Open-source IoT platform for air quality monitoring, built in collaboration with the Italian National Research Council (CNR). Built the entire system and infrastructure: IoT sensors sending MQTT messages to TimescaleDB/PostgreSQL, backend and frontend for sensor management and data visualisation, and cloud infrastructure.

Technical skills

Programming Python, TypeScript, SQL, Scala, Java, Bash, Fortran.

AI/ML LLMs, context engineering, agentic systems, spec-driven development (OpenSpec), PyTorch, Pydantic AI, SageMaker.

Data Snowflake, dbt, Dagster, Spark, Kafka.

Cloud Amazon Web Services.

DevOps Terraform, Docker, Git, GitLab, CircleCI, Kubernetes, Flux, Helm.

Systems Unix/Linux, Windows.

Education

2013 **Master in Chemistry**, *University of Ferrara*, with honors

2011 **Bachelor in Chemistry**, *University of Ferrara*, with honors

Training

Research stays at ETH Zurich, Universidad de Sevilla, and Universitè Paul Sabatier (Toulouse). Multiple workshops, summer schools, and HPC/parallel computing courses at CINECA (Italy). Oral and poster presentations at international conferences.

Languages

Italian Native

English Advanced *Level C1*

Publications

Author or co-author of multiple peer-reviewed publications in computational chemistry, published in journals including *J. Chem. Phys.*, *Phys. Chem. Chem. Phys.*, *J. Phys. Chem. A*, and *J. Chem. Theory Comput.* Full list: `https://scholar.google.co.uk/citations?user=_aqRTuUAAAAJ&hl=en`.

lorenzo.tenti@gmail.com • *www.lorenzotenti.com*