Maxence **Ahlouche**

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Software engineer with an interest in databases, the Rust programming language, and geopolitics as a hobby

Professional Experience

Tech lead — Xeneta

2020 - Present

Oslo, Norway

Tech lead and product-minded software engineer, tasked with the maintenance, modernization and development of one of Xeneta's products, with a focus on setting the medium term technical direction of the product.

This included building a new data pipeline from the ground up, using Snowflake and DBT.

My role also includes mentoring and coaching other developers, as well as managing the ongoing projects to ensure they are delivered on time and with the expected quality.

- 2020 - 2022: mid-level software engineer, in a product team
- 2023: senior software engineer, in the data science team
- 2024 onward: tech lead in a product team

mentoring | project management | Snowflake | DBT | Python | SQL | AWS | Terraform

Ph.D. in Computer Science (unfinished) — Laboratoire Informatique de Grenoble

2016 - 2020

Grenoble, France

Research on using query feedback in RDBMSs for adjusting future cardinality estimates of SQL queries

research | query optimization | PostgreSQL | C

Skills

Programming languages

- **Python:** proficient. Used at Xeneta, during my studies, and for personal projects My most significant open-source project in Python is an equivalent to `virtualenv` for PostgreSQL, useful to develop PostgreSQL itself, available here. Notable libs: Flask, Pandas, Polars, Seaborn, Plotly, SQLAlchemy, Pytest
- **SQL:** proficient with PostgreSQL's dialect. Used a lot during my PhD and at Xeneta
- **C:** intermediate. Wrote an extension to PostgreSQL in C for my PhD, dug a lot in PostgreSQL's source code
- **Rust:** beginner, but very interested. Go-to language for personal projects. Notable libs: Axum, sqlx
- **Others:** familiar with Bash, LaTeX, HTML, CSS, learning React and TypeScript

Infrastructure and operations

- **PostgreSQL:** good mastery. Studied its internals extensively for my PhD, particularly the query planner. Organized upgrade from 9.6 to 13 at Xeneta
- **Docker:** used on my personal servers, orchestrated with docker-compose; used a lot at Xeneta to run our services in ECS, Batch or Lambda
- **Terraform:** used to orchestrate the infra at Xeneta
- **AWS:** used a couple of services, mainly ECS, Lambda and Batch
- **CI/CD:** Gitlab CI used for linting, testing and deploying personal projects, Github Actions at Xeneta

Education

Master's degree in Computer Science — ENSEEIHT

2012 - 2015

Toulouse, France

Tomsk, Russia

Tokyo, Japan

- French engineering degree in Computer Science, in a Grande École
- One exchange semester in Tomsk Polytechnic University
- Research internship at the National Institute of Informatics of Japan

Computer Science HND — IUT Informatique de Bordeaux

2010 - 2012

Bordeaux, France

2-year computer science degree with a focus on practical courses

Projects

- **Home lab:** I maintain a Debian server running a lot of services, all orchestrated with Docker Compose: Traefik as a reverse-proxy that handles certificates, email server (Mailu), Gitlab, Nextcloud, Grafana with Loki, Mimir, Alloy, and various websites
- **pg_venv:** A tool in Python to easily compile and run multiple versions of PostgreSQL in isolated environments. See here
- **pg_explain_lexer:** syntax highlighting for PostgreSQL's query plans. See here
- **Trainlog:** I contribute to a project that has ~200 daily active users, mainly on infra-related tasks (dockerization, dev and prod environments, migration from SQLite to PostgreSQL, …). See here