

# Tim Frohlich

–Full Address Blurred–, Amsterdam

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🐙 github.com/timfdev

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🌐 timfrohlich.com

## EDUCATION

### University of Amsterdam

Bsc Artificial Intelligence

Amsterdam

2016 - 2021

## EXPERIENCE

### Mijnbestemmingsplan.nl

Co-Founder

Amsterdam

2024 jan - Present

- Designed and deployed an api gateway on digital ocean orchestrating containerized services.
- Developed an api to generate professional pdf reports containing regulations for a specific address including geometry objects and satellite photos.
- Developed an api that serves as a retrieval augmented generation system for chats on the platform.
- Additionally contributed to the website project.
- Tech stack: LLMs, FastAPI, Supabase, Digital Ocean, Docker, Nginx, Next.js, React, Tailwind, TypeScript.

### timfrohlich.com

Founder / Freelancer

Amsterdam

2023 jan - Present

- Built a custom portfolio website to showcase my projects.
- Accepting freelance software development projects, focusing on web applications, APIs, and custom solutions for clients.
- Tech stack: Vercel, Next.js, React, Tailwind, TypeScript.

### NextGear

Data Engineer

Amsterdam

2023 nov - 2024 okt

- Developed a business intelligence platform on AWS using Airflow, S3, DBT, Glue, Athena, Quicksight.
- Setting up a microservice search engine: TypeSense
- Setting up a microservice messenger POC using: FastApi, Appsync/GraphQL, DynamoDB
- Built api's and integrations with the data platform for sales, backend and other teams in the company.

### Sensornet / DGMR

Python developer

Den Haag

2021 - 2023

- Working with geospatial and sensory data (vibrations/sound).
- Building streaming/batch data pipelines.
- Designing, implementing, testing, deploying and monitoring in the python codebase on linux servers.
- Code reviewing / Assisting interns.

### Flagship

Guide/Host/Bartender

Amsterdam

2020 - 2021

- Tour guide and bartender on a boat.

### Freelance work

Serving/Hosting/Bartending

Amsterdam

2016 - 2020

- Work in restaurants, bars, clubs and hotels.

### Falkensteiner schneesportschule

Ski teacher

Katschberg

2016

- Group lessons to children and private lessons to adults

### Freelance work

Teaching assistant

Amsterdam

2015

- Private teaching for highschool students

## Notable Projects

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### Graduation project - University project

2021

- Created a system that can arrange and categorize abstract self-made photos, possibly providing support to humans in photovoice studies or other visual learning methods.
- A series of tools and techniques are used to capture the abstract semantic meaning of photos: Image recognition software, class-based tf-idf weighting, Word2Vec, PCA, K-means clustering and WordNet (Lexical database).

### Webscraper - Freelance project

2022

- Created a webscraper that scrapes Funda and Funda business and tries to match the collected data with a list of addresses in the Netherlands that are filtered on a specified minimum difference between height and allowed height according to regulations. Sends emails with the results.
- Set up a hosting server where this script runs daily.

### GPS Snapping - Work Project

2022

- Developed and implemented a method for snapping GPS data from city trams to rail tracks, enhancing route accuracy and reducing the error margin on positions.
- Constructed a logical network model for optimized path finding and integrated a search tree to evaluate potential paths.
- Fully built in Python to process and clean GPS signals, improving connections of tram positions with environmental data (sound, vibrations) while also speeding up visualization in the frontend because of data aggregation.

### Automated youtube channel - Private project

2024

- Automating shorts production by using a multi agent frame work with LLM's and Text-To-Speech services based on static datasets and current social media trends.

## Technologies I've Worked With

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- **Programming Languages:** Python, JavaScript, TypeScript, HTML, CSS, Shell
- **Frameworks and Libraries:** React, Next.js, Tailwind CSS, FastAPI
- **Data Engineering Tools:** Apache Airflow, DBT (Data Build Tool)
- **Databases:**
  - **SQL Databases:** MySQL, PostgreSQL
  - **NoSQL Databases:** DynamoDB, Redis
- **Containerization and Virtualization:** Docker, LXC
- **Cloud Platforms and Services:**
  - **AWS Services:** S3, Lambda, Glue, Athena, QuickSight, AppSync, ECS
  - **Other Platforms:** DigitalOcean, Supabase
- **Machine Learning / AI:**
  - Large Language Models (LLMs) using APIs and Hugging Face models
  - Retrieval-Augmented Generation (RAG) Systems
  - Artificial Intelligence concepts and applications
- **DevOps and CI/CD:**
  - CI/CD Best Practices
  - Github Actions
  - Docker for Continuous Deployment
- **Version Control Systems:** Git, GitHub, GitLab
- **Web Servers and Reverse Proxies:** Nginx
- **API Development:** RESTful APIs, GraphQL
- **Operating Systems:** Linux (development, server administration)
- **Project Management and Methodologies:** Scrum, Agile Practices
- **Content Management Systems (CMS):** WordPress
- **Documentation Tools:**  $\text{\LaTeX}$