

François Duquesne

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Software Engineer · Belgium / Remote

PROFILE

Software engineer with a background in scientific research, building product-grade interfaces for technical domains. My work sits at the intersection of complex data and operational decision-making, from signal intelligence and satellite operations to hydrodynamic modelling and developer tooling. I care about making technically dense information usable: clear under complexity, reliable under pressure, and honest about what the data says. Currently at Aerospacelab. Open to full-time opportunities and selective freelance engagements.

EXPERIENCE

- Sep 2022 – Present **Software Engineer** Aerospacelab
Belgian new-space company developing its own satellites and intelligence products.
- Sole frontend engineer on DataFusion, an extensible platform fusing SIGINT, optical, and open-source data into a unified operational interface with real-time monitoring, vessel tracking, and configurable alerting.
 - Led frontend of a SIGINT platform serving internal analysts and undisclosed external clients, delivering geospatial maps and tabular views for signal classification and intelligence workflows.
 - Built satellite operations platform used by all satellite operators, providing real-time telemetry, telecommand management, health tracking, and pass scheduling.
 - Contributed to frontend architecture across multiple intelligence and Earth observation products.
- 2019 – Jul 2022 **Full-Stack Developer** SEALAB
UCLouvain spin-off developing scientific software for hydrodynamic modelling. Joined as part of the founding team.
- Designed system architecture and led technical decisions as a founding team member.
 - Implemented CI/CD pipeline and deployment infrastructure from scratch.
 - Developed full-stack features from data ingestion and backend APIs to user-facing UI.
- 2019 **Research Support** UCLouvain – Earth and Life Institute
Extended research from my M.Sc. dissertation; contributed to hydrodynamic model quality.

EDUCATION

- 2017 – 2019 **Master's in Bioengineering** UCLouvain
Major in data analysis and management, with a focus on environmental modelling.
- 2014 – 2017 **Bachelor's in Bioengineering** UCLouvain
Louvain-la-Neuve, Belgium.

PUBLICATIONS

- January 2021 **A coupled ecohydrodynamic model to predict algal blooms in Lake Titicaca** Ecological Modelling
sciencedirect.com ↗

SKILLS & STACK

Frontend

TypeScript · JavaScript · Vue 3 · Nuxt ·
React (learning) · HTML/CSS · Tailwind
Tools
Git · Docker · GitLab CI/CD · Vitest ·
Playwright · Bash

Backend / APIs

Python · Django · REST APIs · SQL ·
PostgreSQL · Node.js
Scientific
R · MatLab · GIS (QGIS / ArcGIS) ·
Mathematical modelling · LaTeX

Data & Viz

D3.js · Vue Flow · Dashboards ·
Geospatial / Maps · Signal data
Languages
Spanish (native) · French (native) ·
English (fluent)