

# FRANCESCO FRASSINELLI

Also known as "FraFra"

## Lead developer & software architect

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frafra.eu  
Norwegian/Italian citizenship

Trondheim, Norway



## WORK EXPERIENCE

### Lead developer

#### NINA - Norwegian Institute for Natural Research

- January 2026 - ongoing Lead developer
- October 2024 - Dec. 2025 Environmental data manager
- December 2019 - Sept. 2024 Environmental data coordinator
- September 2018 - Nov. 2019 Software engineer

- Led the environmental data section (10 people: developers, GIS analysts, data specialists); defined software architecture and provided technical advisory to project leaders and researchers
- Introduced containerized deployments, GitOps, and reproducible tooling, managing around 100 stacks
- Standardized fragmented data silos into cataloged, interoperable systems; adopted cloud-native formats and modern data tooling
- Led the development effort on the Viltkamera project: stabilized the platform and coordinated the development team to deliver a new version
- Acted as the primary technical advisor for the internal Power Users group, resolving complex architectural, data, and HPC challenges

### Independent consultant & developer

#### FraFra Francesco Frassinelli

- August 2019 - ongoing Independent consultant
- Engineered a system to generate national OpenStreetMap extracts for all Italian administrative levels
- Deployed and maintained a planet-scale tile server with custom map styles for Wikimedia Italia
- Developed a customized CKAN portal (with harvesting) and modernized a Django application by upgrading, decoupling, and containerizing it

### Technical lead & startup co-founder

#### KJuicer Srl (former Consapevolezza Srl)

- March 2015 - June 2018 Technical lead
- October 2014 - Jan. 2015 Full stack developer
- Co-founded a text-analysis startup: built a Django/React web application for document and web-page highlighting, annotation, and summarization
- Led full product lifecycle: architecture, development, and deployment on a Linux/PostgreSQL stack

### Control project engineer

#### CERN - European Organization for Nuclear Research

- April 2016 - July 2016 Control project engineer
- March 2013 - August 2013 Python specialist
- Developed validation and static analysis tools for PLC-based control systems across LHC and CERN experiments
- Introduced CI pipelines (Jenkins) for automated code generation and diff tracking on cryogenics control systems

## PROFILE

12+ years of experience in software engineering, innovation, and infrastructure, including 7 years architecting spatial data systems and cloud-native infrastructure. 20+ years open-source contributor.

## TECHNICAL SKILLS



### Languages

Bash Javascript Makefile  
Python Rust SQL



### Software & frameworks

Django DuckDB Docker Git  
GraphQL Kubernetes Postgres  
React REST Sentry



### Geoinformatics

CKAN GDAL GRASS QGIS  
MapLibre OpenStreetMap  
PostGIS GeoParquet



### Misc

GitOps HPC CI/CD Linux  
ML/AI S3 Terraform

## LANGUAGES

Italian ●●●●●● C2  
English ●●●●●● C1  
Norwegian ●●●●●● B2  
French ●●●●●● A2

## EDUCATION

Master of Science in Geoinformatics Engineering  
Politecnico di Milano, 2022

- Officially recognized in Norway by the Directorate for Higher Education and Skills

Bachelor of Science in Engineering of Computing Systems  
Politecnico di Milano, 2016

- Officially recognized in Norway by the Directorate for Higher Education and Skills

## PUBLICATIONS

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### Journal Articles

- C. R. Nater, F. Frassinelli, J. A. Martin, and E. B. Nilsen, "Large-scale spatio-temporal variation in vital rates and population dynamics of an alpine bird," *Peer Community Journal*, vol. 4, 2024.
- M. Minghini and F. Frassinelli, "Openstreetmap history for intrinsic quality assessment: Is osm up-to-date?" *Open Geospatial Data, Software and Standards*, 2019. DOI: 10.1186/s40965-019-0067-x.

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### Conference Proceedings

- M. A. Brovelli, C. E. Kilsedar, and F. Frassinelli, "Mobile tools for community scientists," vol. 1, 2019, p. 30. DOI: 10.5194/ica-abs-1-30-2019.
- M. Minghini, M. A. Brovelli, and F. Frassinelli, "An open source approach for the intrinsic assessment of the temporal accuracy, up-to-dateness and lineage of openstreetmap," vol. XLII-4/W8, 2018, pp. 147–154. DOI: 10.5194/isprs-archives-XLII-4-W8-147-2018.
- C. E. Kilsedar, D. Oxoli, F. Frassinelli, M. Montani, and M. Minghini, "Humanitarian mapping within a student association: Polimappers," 2017, pp. 130–136. [Online]. Available: <http://geomorfolab.arch.unige.it/geomaticsworkbooks/GW13.pdf>.
- C. E. Kilsedar et al., "Polimappers: Activities and objectives," in *FOSS4G-IT*, (Genoa, Italy), 2017. [Online]. Available: [https://www.researchgate.net/publication/313651028\\_PoliMappers\\_activities\\_and\\_objectives](https://www.researchgate.net/publication/313651028_PoliMappers_activities_and_objectives).
- C. Fluder et al., "Improved software production for the LHC tunnel cryogenics control system," vol. 67, 2015, pp. 1134–1140. DOI: 10.1016/j.phpro.2015.06.176.
- A. Tovar-Gonzalez et al., "Validation of the data consolidation in layout database for the LHC tunnel cryogenics controls upgrade," (ICALEPCS 2013), San Francisco, 2014.


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### Academic Thesis


- F. Frassinelli, "Towards the evaluation of openstreetmap intrinsic temporal accuracy and up-to-dateness using historical data," Awarded max score. Developed **is-osm-uptodate**, an open-source tool alongside the research., M.S. thesis, Politecnico di Milano, 2021.

## VOLUNTEERING

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 Open-source contributor

**OpenStreetMap, OSGeo, Fedora Project, Wikimedia, GNU/Linux user groups**

 2003 – ongoing

- **Over 20 years of open-source contributions:** 100+ followers on GitHub, with contributions across 100+ projects
- State of the Map 2018 organizer, volunteer and speaker (scientific track)
- Speaker and organizer at 20+ community events, conferences, and Linux Days since 2004

## CERTIFICATES

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 IELTS band 7 (CEF C1)

**British Council**

 Norskprøve B2 (Oral)

**Norwegian Directorate for Higher Education and Skills**

## PATENTS

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 US11321416B2/EP3365814B1

**United States Patent and Trademark Office & European Patent Office**