

Frédéric Moser

<http://fxi.io>

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Career objective

Aspire to join an innovative, eco-conscious organization to contribute through advanced problem-solving skills and technical expertise, driving sustainable solutions.

Work experience

Lead Developer

06/2015 – present

University of Geneva (80%)

Geneva

Development of MapX, a platform for mapping and visualizing specialized scientific data.

- ★ Developed the initial prototype using Shiny in two weeks.
- ★ Migrated critical parts to a Dockerized stack using Node.js, PostgreSQL, Redis, Traefik, MeiliSearch, and a JavaScript single-page application frontend.
- ★ Implemented key features including multi-source join editor, real-time attribute table editor using WebSocket, print-quality map export, story-map engine, GeoServer bridge for OGC standards, statistical tools, SDK integration package, and project management for users and vector geospatial data.
- ★ Improvement of the platform to support thousands of users from all UN countries.

<https://mapx.org>

Lead Developer

11/2014 – present

University of Geneva (20%)

Geneva

Development of AccessMod 5, a WHO-supported desktop application for anisotropic accessibility analysis and modeling.

- ★ Developed a full-featured, user-friendly, and free replacement for AccessMod 4 in 6 months using only open-source tools.
- ★ Provided long-term support for the platform by integrating new features and ensuring maintenance, performance improvements while migrating towards a Docker-centric multi-architecture platform and an Electron based app manager.
- ★ Achieved AccessMod 5 recognition as a Digital Public Good.

<https://www.accessmod.org>

Research Assistant

08/2013 – 06/2014

University of Geneva

Geneva

Contributed to multiple projects focusing on biodiversity and geomatics. Key achievements:

- ★ Conducted map/reduce operations on multi-terabyte text files and analyzed a stochastic water flow model for the ACQWA project.
- ★ Developed **lebamod**, an interactive web application using HPC for configuring, fitting, and analyzing neural network models.
- ★ Automated statistical predictions of discharge for multiple hydrological stations using R scripts.
- ★ Enhanced **hexdim**, a web application for spatial exploration of species distribution predictive models.
- ★ Transitioned ArcGIS workshops to open-source GIS solutions and contributed to introductory geomatics courses.

Education

Master of Environmental Sciences

2010 – 2013

University of Geneva

Genève

Thesis : *Impact of climatic changes on alpine biodiversity: species distribution modeling for aquatic insects in the Rhone watershed in Valais.*

Direction : D^r E. Castella & Prof. D^r A. Lehmann.

Bachelor of Arts in Geography

2007 – 2010

University of Geneva

Genève

Thesis : *Shared space concept as a solution to reconsider street design on a human scale*

Direction : D^r B. Levy.

Computer Skills

Scale: ●●●●● = basic, ●●●●●● = advanced

Programming Languages

●●●●● JavaScript
●●●●● R
●●●●● HTML5/CSS
●●●●● L^AT_EX
●●●●● Shell Scripts
●●●●● C

Databases

●●●●● PostgreSQL
●●●●● SQLite

GIS Software

●●●●● Grass GIS
●●●●● PostGIS
●●●●● QGIS
●●●●● ArcGIS

Development tools

●●●●● Shiny (R)
●●●●● Mapbox GL (JS)
●●●●● Webpack (JS)
●●●●● Docker
●●●●● vim
●●●●● git
●●●●● Caret (R)
●●●●● GDAL
●●●●● Electron
●●●●● Packer

Operating Systems

●●●●● MacOS
●●●●● Alpine Linux
●●●●● Ubuntu Server

Language Proficiency

- ★ **Français** : Native
- ★ **English** : Intermediate
- ★ **Deutsch** : Basic

Previous education

Diploma of Watchmaker Rhabilleur <i>School of Watchmaking</i> Received a Fondation Hans-Wilsdorf prize for exceptional craftsmanship and skill.	2000 – 2001 <i>Petit-Lancy</i>
Diploma of Watchmaker Praticien <i>Patek Philippe Geneva & School of Watchmaking Plan-les-Ouates</i> Completed intensive training in watchmaking, specializing in precision mechanics and fine adjustments.	1997 – 2000

Previous work experiences

Computer Technician <i>MacWorks SàRL (20-50%)</i> Performed computer and smartphone repairs, micro-welding, troubleshooting, and data recovery, with a focus on reducing environmental impact through repair and reuse.	09/2009 – 02/2014 <i>Geneva</i>
Watchmaker <i>Self-employed, Andersen S.A. (20-100%)</i> Designed, prototyped, and produced horological complications with a focus on precision manufacturing processes. Developed awareness of the negative impact of the luxury industry on the world.	11/2001 – 09/2010 <i>Geneva</i>
Bicycle Messenger <i>Krick Cyclomessagerie; dvdmania; Factotum (10-20%)</i> Handled express deliveries in urban areas, developing a strong commitment to social and environmental causes.	12/2001 – 06/2008 <i>Geneva</i>

Civilian Service <i>Genève Roule, IAUG, Agricultural Operations Switzerland</i> Chose civilian service as a conscientious objector, foregoing military duty. Engaged in diverse roles spanning technology, leadership, and manual labor, demonstrating adaptability and skill growth. Highlights include:	05/2005 – 12/2008
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- ★ Developed and implemented an efficient HR management application, for a non-profit public-benefit association.
- ★ Led teams across various settings, promoting teamwork and ensuring project completion.
- ★ Supported sustainable agriculture through hands-on involvement in agricultural operations, including maintenance, carpentry, and farming tasks.

Extracurricular activities

Committee Member, Member <i>Association Roue Libre</i> Actively promoted bicycle usage through cultural, sports, and various activities within the community. Highlights:	04/2005 – 04/2024 <i>Geneva</i>
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- ★ Handled communication initiatives to enhance community engagement and increase association visibility.
- ★ Designed and implemented software/hardware systems for interactive static bicycle races, boosting event participation.
- ★ Coordinated over 100 volunteers for the Swiss Bicycle Messenger Championship 2005, leading to a successfully managed major event.
- ★ Maintained and updated the association's website, improving user experience and information accessibility.