# RAPHAEL SULZER

## CONTACT


raphaelsulzer@gmx.de
raphaelsulzer.de
Nice, France

LinkedIn
GitHub
Google Scholar


## SKILLS

*Programming*

| | |
|---|---|
| **Python** | *8 yrs* |
| **C++** | *7 yrs* |
| **LaTeX** | *6 yrs* |
| **HTML/CSS** | *4 yrs* |
| **C#** | *2 yrs* |
| **JavaScript** | *2 yrs* |

*Languages*

| | |
|---|---|
| **German** | *Native* |
| **English** | *Fluent* |
| **French** | *Conversational* |
| **Dutch** | *Beginner* |

*Other*

3D modeling · Blender · CGAL · Cesium · CMake · computer vision · conda · deep learning · GIS · geometry processing · GitHub · LiDAR · machine learning · matplotlib · mesh · numpy · photogrammetry · point cloud · pytorch · unix

## EXPERIENCE

### RESEARCH ENGINEER
11/2023 - Present
LUXCARTA, MOUANS-SARTOUX, FRANCE
Developing an algorithm for country-wide 3D building model reconstruction from airborne LiDAR data.

### POSTDOCTORAL RESEARCHER
11/2022 - Present
TITANE, INRIA, SOPHIA-ANTIPOLIS, FRANCE
Carrying out research in geometry processing, computer vision and deep learning.

### PHD RESEARCHER
12/2018 - 10/2022
LASTIG, INSTITUT GÉOGRAPHIQUE NATIONAL, PARIS, FRANCE
IMAGINE, ÉCOLE DES PONTS PARISTECH, MARNE-LA-VALLEÉE, FRANCE
Carrying out research in geometry processing, computer vision and deep learning.

### LECTURER
12/2018 - 12/2019
ÉCOLE NATIONALE DES SCIENCES GÉOGRAPHIQUES, PARIS, FRANCE
Designing and implementing e-learning courses in photogrammetry and GIS.

### GIS DEVELOPER
05/2018 - 07/2019
GEO-COL GIS AND COLLABORATIVE PLANNING, AMSTERDAM, NETHERLANDS
Designing and implementing GIS applications for public and private customers.

### GRADUATE STUDENT INTERN
06/2017 - 02/2018
ARUP, AMSTERDAM, NETHERLANDS
Developing an algorithm for building classification from remote sensing and cadastral data.

## EDUCATION

### PHD DEGREE, DEEP LEARNING AND GEOMETRY PROCESSING
12/2018 - 10/2022
GUSTAVE EIFFEL UNIVERSITY, MARNE-LA-VALLEÉE, FRANCE
PhD Thesis: Learning Surface Reconstruction from Point Clouds in the Wild (link)

### MASTER'S DEGREE, MSC GEOMATICS, CUM LAUDE
08/2016 - 05/2018
DELFT UNIVERSITY OF TECHNOLOGY, DELFT, NETHERLANDS
Master's Thesis: Shape Based Classification of Seismic Building Structural Types (link)

### ERASMUS EXCHANGE SEMESTER
08/2015 - 06/2016
DELFT UNIVERSITY OF TECHNOLOGY, DELFT, NETHERLANDS

### MSC GEODESY AND GEOINFORMATICS
05/2015 - 01/2016
UNIVERSITY OF STUTTGART, STUTTGART, GERMANY

### BACHELOR'S DEGREE, BSC GEODESY AND GEOINFORMATICS
10/2011 - 05/2015
UNIVERSITY OF STUTTGART, STUTTGART, GERMANY
Bachelor's Thesis: Photogrammetric Measurement of Snow Depth Using an UAV Platform (link)

## REFERENCES


Florent LAFARGE
florent.lafarge@inria.fr
TITANE, INRIA
Postdoctoral advisor

Loïc LANDRIEU
loic.landrieu@enpc.fr
IMAGINE, ÉCOLE DES PONTS PARISTECH
Doctoral advisor


## PUBLICATIONS

Concise Plane Arrangements for Low-Poly Surface and Volume Modelling
**R. Sulzer**, F. Lafarge
2024 European Conference on Computer Vision arXiv

SimpliCity: Reconstructing Buildings with Simple Regularized 3D Models
J.-P. Bauchet, **R. Sulzer**, F. Lafarge, Y. Tarabalka
2024 CVPR Workshop on Urban Scene Modeling arXiv

Evaluating Surface Mesh Reconstruction Using Real Data
Y. Marchand, L. Caraffa, **R. Sulzer**, E. Clédat, B. Vallet
2023 Photogrammetric Engineering & Remote Sensing Journal, Volume 89, Number 10 link

A Survey and Benchmark of Automatic Surface Reconstruction from Point Clouds
**R. Sulzer**, L. Landrieu, R. Marlet, B. Vallet
2023 arXiv preprint arXiv

Deep Surface Reconstruction from Point Clouds with Visibility Information
**R. Sulzer**, L. Landrieu, A. Boulch, R. Marlet, B. Vallet
2022 26th International Conference on Pattern Recognition (ICPR), Montréal, Québec arXiv

Scalable Surface Reconstruction with Delaunay-Graph Neural Networks
**R. Sulzer**, L. Landrieu, R. Marlet, B. Vallet
2021 Computer Graphics Forum, Wiley, 2021, Eurographics Symposium on Geometry Processing 2021 arXiv

Shape Based Classification of Seismic Building Structural Types
**R. Sulzer**, P. Nourian, M. Palmieri, J. van Gemert
2018 International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, 2018 link

Track-id: Activity Determination based on Wi-Fi Monitoring
van der Spek, S., Verbree, E., Quak, W., Groeneveld, I. J. D. G., **Sulzer, R.**, Theocharous, E., Xu, Y.
2016 Proceedings of the 13th International Conference on Location Based Services: LBS 2016 link