

Rémi Cura

PhD, Engineer

Research fields: Massive data (Lidar), GIS databases, Machine learning, Computer Vision/Graphics

Computer skills: SQL, PL/SQL, Python, C/C++, Git, JavaScript, Java

Activities: [Certified cabinet maker](#), travels/trekking ([one year around the world 2011](#)), climbing, design

Skills and technical experience

- Expert in massive Lidar Point cloud management: Prototyped an efficient and end-to-end solution.
- Expert in urban reconstruction: Created the first street modelling and reconstruction framework.
- Expert in GIS databases: Designed the first [open source geocoder](#) able to deal with fuzzy historical addresses.

Work Experience

Paris School of Economics, Belle Époque project, France – [Post-doctorate](#) 08.2016 – 02.2017

- Created a complete historical geocoding solution tested on Paris (19th century, 10⁶ addresses) using fuzzy modeling of time and addresses and collaborative interactive web edit. **SQL / Python / JavaScript**
- Successfully dealt with uncertainty of historical data (spatial, temporal, textual) in a fast way (<300ms).

Thales TTS/IGN (MATIS, COGIT), France – PhD, Thesis in industrial context 04.2013 – 09.2016

Authored a seminal work on [street modelling and reconstruction](#) at city scale:

- Created a full management framework for massive amount of Lidar point clouds (>10⁹, I/O, compression, indexing, processing, visualization, LOD...). **Python / SQL / C**
- Proposed an automated in-base street modelling method with coherent **street geometry, street network, lane and traffic information, street objects**. **SQL / PLpgSQL / Graph**
- Conceived and implemented a **new in-base user-interaction paradigm** applied to concurrent multi-user edits. Automatic road model fitting to multi-modal street observations with **numerical optimization**. **C++**
- Seamlessly worked in two research labs and a major defense company, **producing both high quality publications** (awarded) and **prototypes** (tested on real-life challenging data-sets).

Thales TTS, France – Master thesis 03.2012 – 09.2012

- Analyzed and mined (association rules) a complex data set (Open Data Paris: 10⁶ objects on dozens of layers).
- Prototyped a software redesign that led to major cost reduction and full workflow change (full sharing).

Teaching / Training

Oslandia, France – Freelance consulting and training 05.2017 – Now

- Created a [new training](#) on open source tools for point clouds processing and visualization. Tailored the training to very different clients, with a consulting (problem solving) approach.

Lavoisier School, France – Math examiner for preparatory class (undergraduate) 09.2008 – 06.2016

Education

Certified Cabinet Maker 10.2017

PhD in Computer Science (spec. in geographical information) – Université Paris-Est, France 04.2013 – 09.2016

Master degree in Computer Science (Engineer degree) - Telecom ParisTech 2007 – 2012