

# Gael Lederrey

*Ph.D. student in Civil Engineering  
(Discrete Choice and Machine Learning)*

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## Degrees and Studies

- 09.2017 - **Ph.D. in Civil Engineering**, EPFL, Lausanne.  
this day Topic: Discrete Choice and Machine Learning theories.
- 09.2014- **Master in CSE (Computational Science and Engineering)**, EPFL, Lausanne.  
0972017 GPA: 5.54/6
- Master Project:
- *Who likes this beer? Me or the community?*  
A matched observational study of beer reviews from two aligned communities.
- Semester Projects:
- *Collaborative Sensing and Decision Making for Intelligent Vehicle Maneuvers*  
Project summary: [http://disal.epfl.ch/teaching/students\\_projects/AY\\_2014-2015/DISAL-SP66](http://disal.epfl.ch/teaching/students_projects/AY_2014-2015/DISAL-SP66)
  - *A Macroscopic Loading Model for Dynamic, Multi-directional and Congested Pedestrian Flows*  
Project on infoscience: <https://infoscience.epfl.ch/record/213695>
- 09.2011- **Bachelor in Physics**, EPFL, Lausanne.  
07.2014 GPA : 5.12/6
- 09.2010- **Propaedeutic year in Mathematics**, EPFL, Lausanne.  
07.2011 GPA : 4.78/6
- 08.2007- **"Maturité gymnasiale"**, *Gymnase of Bugnon, site of Sévelin*, Lausanne.  
07.2010
- Option : Physics and applied mathematics
  - Rewards :
    - Prize of reinforced mathematics
    - Prize of Physics
    - Prize of the Gymnase

## Internships

- 07.2015- **Internship as a Back End Engineer**, nVISO SA, Innovation Park, EPFL, Lausanne.  
01.2016 Create a framework to help building APIs. Swagger was used as the core of the framework. Work on different projects. Main languages: Java, Python and Bash.
- 07.2014- **Internship in the Laboratory of Cell Biophysics**, EPFL, Lausanne.  
09.2014 Study of the cell motility. Simulation of a Keratocyte. Test of different parameters.

## Work Experience

- 07.2017 - **Follow-up of the Master thesis**, EPFL, Lausanne.  
this day Preparing academic paper following the results of my Master thesis
- 01.2017 - **Matlab and Octave assistant**, EPFL, Lausanne.  
this day Helping the professor with a MOOC on Matlab and Octave. Answering students' questions in two forums
- 09.2016 - **C++ assistant for the project in Life Science, 2<sup>nd</sup> year of Bachelor**, EPFL, Lausanne.  
12.2016 Scrum master for a project on Neuroscience with 10 students. Teach them how to develop an important project and how to work in team using the different software engineers tools.
- 09.2016 - **C++ assistant for beginner course in Master**, EPFL, Lausanne.  
12.2016 Help the students with the exercises on C++. Teach them how to develop a program in C++ for a specific task.

- 02.2016 - **Junior Back End Engineer**, nVISO SA, Innovation Park, EPFL, Lausanne.
- 08.2016 Continuation of the internship at nViso. Job was part-time (50%) beside the studies from February to June. Continuation of the different projects that started during the internship.
- 02.2015 - **Numerical Analysis assistant**, EPFL, Lausanne.
- 06.2015 Work in small groups with students. Preparation of exercises sessions.
- 09.2012 - **Physics assistant**, EPFL, Lausanne.
- 12.2014 Work in small groups with students. Preparation of exercises sessions.
- 02.2012 - **Employee Call-Center**, DIGICALL SA, Denges, *Extra*.
- 09.2013 Work in team in a call-center. Call pick-up in different categories (Veterinary, Mortician's, Repairs, schedules, etc.) in French and English.
- 04.2006 - **Waiter**, MAISON DU BLÉ ET DU PAIN, Echallens, *Extra*.
- 02.2012 Customer service and at the bar. Reception to the museum and to the telephone. Management of team.

## Volunteerism

- 09.2016 - **President of CQFD (Association of Mathematician Students)**, EPFL, Lausanne.
- this day CQFD is the association that represents the Mathematician Students. We organize parties for them but we also help them with the studies. The role of president is to ensure that everything is fine. The president takes care of all the administrative tasks.
- 12.2015 - **Driver**, Nez Rouge, Lausanne.
- this day Volunteer in the association Nez Rouge, Lausanne section. During the cold nights of December, we drive people back home.
- 09.2015 - **Member of CQFD (Association of Mathematician Students)**, EPFL, Lausanne.
- 08.2016 CQFD is the association that represents the Mathematician Students. We organize parties for them but we also help them with the studies. For the association, I was working on the relations between the CSE students and the students in Mathematics.
- 09.2013 - **Class representative**, EPFL, Lausanne, during the 3<sup>rd</sup> year of the Bachelor in Physics and the first
- 08.2016 two years of the Master in CSE.  
Link between the students and the higher authorities of the EPFL. Preparation of the study tour (in the 3<sup>rd</sup> year of Bachelor). Preparation of the exams' schedule.
- 08.2009 - **Advisor**, *Gymnase of Bugnon, site of Sévelin*, Lausanne.
- 07.2010 Support in Mathematics and Physics for the first year students. Teaching of a work method.

## Publications

- 2017 Flurin S. Hänseler, William H.K. Lam, Michel Bierlaire, **Gael Lederrey**, Marija Nikolić, *A dynamic network loading model for anisotropic and congested pedestrian flows*, Transportation Research Part B: Methodological, Volume 95, January 2017, Pages 149-168, ISSN 0191-2615, <http://dx.doi.org/10.1016/j.trb.2016.10.017>
- 2016 Milos Vasic, **Gael Lederrey**, Iñaki Navarro, Alcherio Martinoli, *An overtaking decision algorithm for networked intelligent vehicles based on cooperative perception*, Intelligent Vehicles Symposium (IV), 2016 IEEE, 19-22 June 2016, <http://ieeexplore.ieee.org/abstract/document/7535519/>

## Skills

### Programming Language

- OOP C, C++, Java, Python, Javascript and small knowledge of PHP
- Parallel Basic Skills in OpenMP and MPI
- Technical Matlab
- Web HTML and CSS (Bootstrap)
- Other L<sup>A</sup>T<sub>E</sub>X, Bash scripts, Webots

### Languages

- French Mother tongue
- English Business Level
- German Basic level

*Usual language for the studies*

*Learned in school*