William TROULEAU

Avenue d'Ouchy 24C
1006 Lausanne
Switzerland

linkedin.com/in/william-trouleau
william.trouleau@gmail.com
+41 (0)78 814 96 55

French citizen
Swiss B Permit
Born 28.03.1991

KEY COMPETENCES: Machine Learning • Probabilistic Modeling • Data Mining

EDUCATION

2015 – ongoing **Ph.D. candidate** EPFL (Switzerland)
Information & Network dynamics group (INDY), School of Computer and Communication Sciences
under the supervision of Pr. Matthias Grossglauser and Pr. Patrick Thiran
Statistical and algorithmic aspects of modeling, control and inference of dynamical systems spreading over large networks; with applications on information diffusion, recommendation systems, and epidemiology.
Main research topics: Network inference, point processes, diffusion networks, epidemic control.

2012 – 2015 **M.Sc. in Communication Systems** EPFL (Switzerland)
Thesis: User behavior modeling in video-on-demand services.

2009 – 2012 **B.Sc. in Communication Systems** EPFL (Switzerland)

PROFESSIONAL EXPERIENCES

10.2014 – 07.2015 (10 months) **Research internship on user behavior modeling** Technicolor (Los Altos, CA, USA)
Design of a novel generative mixture model that presents a first-of-its-kind characterization of viewer behavior on video-on-demand services. From our modeling, we tackle various predictive tasks to predict future user actions (number of views, stopping time…).
Publication: W. Trouleau, A. Ashkan, W. Ding, B. Eriksson. *Just One More: Modeling Binge Watching Behavior*. In Proceedings of the 22nd ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD'16)

07.2014 – 09.2014 (3 months) **Research internship on topic modeling** Technicolor (Paris, France)
Design of a hierarchical topic model with Monte Carlo Markov Chain inference for legal document classification and exploratory analysis of patent portfolios.

ACADEMIC PROJECTS

09.2017 - ongoing **Large scale breaking news detection on geo-tagged tweets**
Design of a model to estimate and predict the general mood trend from more than 300 million tweets to detect breaking news events automatically.

12.2016 – 12.2017 **Measuring the efficiency of interventions for Neglected Tropical Diseases** World Health Organization
Project in partnership with WHO and EPFL. A Data-driven analysis to assess and predict the cost and efficiency of interventions targeting the elimination of parasitic worms.
Publication: A. Montresor, W. Trouleau, D. Mupfasoni, M. Bangert, S.A. Joseph, A. Mikhailov, C. Fitzpatrick. *Preventive chemotherapy to control soil-transmitted helminthiasis averted more than 500 000 DALYs in 2015*. Transactions of The Royal Society of Tropical Medicine and Hygiene, Vol. 111, Issue 10, p. 457–463, 2017.

09.2015 – 09.2016 (12 months) **Inferring the structure of sparse propagation networks for the spread of epidemics**
Design of a probabilistic method to reconstruct the propagation network of epidemics while observing only the outcome of a stochastic process propagating over it.

2013 (6 months) **Short text topic modeling on geo-tagged tweets**
Design of a topic model tailored to solve issues of the state-of-the-art Latent Dirichlet Allocation model for short text documents like tweets.

SKILLS

- **Data science** Machine learning, Convex optimization, Probabilistic modeling, Information theory and coding, Graphical modeling, Natural language processing, Applied data analysis.
- **Signal processing** Biomedical signal processing, Statistical signal processing.
- **Programming** Python, Spark, Matlab, Java, Bash, SQL/NoSQL, HTML/CSS, LaTeX.

LANGUAGES AND MISCELLANEA

- **French** Native language
- **English** Fluent, written and spoken
- **Spanish** Basic knowledge

- **Honors**
  - EDIC Fellowship, EPFL (2015)
  - ACM SIGKDD Student Travel Award (2016)