

William TROULEAU

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French citizen
Swiss C Permit
Born 28.03.1991

KEY COMPETENCES: Machine Learning • Probabilistic Modeling • Data Mining

EDUCATION

- 2015 – 2021 **Ph.D. in Machine Learning** – École Polytechnique Fédérale de Lausanne (EPFL)
- Information & Network Dynamics Lab (INDY), Prof. Matthias Grossglauser and Prof. Patrick Thiran
 - Focus on the statistical and algorithmic aspects of **modeling**, **control** and **inference** of **networks of times series**; with applications in epidemiology, neuroscience, information diffusion and recommendation systems
- 2009 – 2015 **B.Sc. and M.Sc. in Communication Systems** – École Polytechnique Fédérale de Lausanne (EPFL)
- Master thesis on user behavior modeling in video-on-demand services (published at KDD 2016)

PROFESSIONAL EXPERIENCE

- 2019 **Research Intern** – Institute for Disease Modeling (Seattle, USA)
(3 months)
- Participated in the *2019 KIT Tuberculosis (TB) Hackathon* to quantify the TB burden in Pakistan
 - Took care of data collection, data cleaning, model design and performance evaluation
 - Won the competition (out of 9 international teams)
- 2014 – 2015 **Research Intern** – Technicolor (Los Altos, CA, USA)
(10 months)
- Designed a novel generative mixture model that presents a first-of-its-kind characterization of viewer binge-watching behavior on video-on-demand services
 - Cleaned & processed >200GB of raw user logs into an accessible MongoDB database, kickstarting several projects for my fellow researchers
- 2013 **Research Intern** – Technicolor (Paris, France)
(3 months)
- Designed a hierarchical topic model with Monte Carlo Markov Chain inference for legal document classification and exploratory analysis of patent portfolios
 - Presented the results to both the research and legal teams

TEACHING AND OUTREACH EXPERIENCE

- 2015-2020 **Teaching Assistant** – EPFL
- Led the rapid conversion of 2 courses to an online format due to Covid-19 restrictions at EPFL
 - Taught a number of lectures for several courses, including the cornerstone “Stochastic Models for Communications” course for undergraduate students at EPFL (~100 students)
 - Designed data mining exercises in Python/Spark. Recruited and led several teams of teaching assistants for an undergraduate data mining course “Internet Analytics” (~50 students)
 - Received Teaching Assistant Award for my work
 - Oversaw exercise sessions and evaluated exams for undergraduate courses each semester
- 2015-2017 **Initial Study Advisor** – EPFL
- Helped the Deputy of Section with new M.Sc. students in “Communication Systems”
 - Mentored >50 students over 3 years

SKILLS

- Data Science** Machine Learning, Optimization, Probabilistic Modeling, Applied Data Analysis, Information Theory, Statistical Signal Processing
- Programming** Python, Spark, R, Matlab, Bash, Java, SQL/NoSQL, HTML/CSS, LaTeX

LANGUAGES AND MISCELLANEA

- Languages**
- o **French:** Native language
 - o **English:** Fluent, written and spoken
- Services**
- o Reviewer for machine learning conferences: ICML, NeurIPS, and AISTATS
 - o Initial study advisor for new EPFL M.Sc. students

HONORS AND AWARDS

- 2020 In Top 33% of Reviewers, ICML'20
- 2019 Hackathon Winner, 2019 Hack TB, KIT
- 2019 Teaching Assistant Award, EPFL
- 2016 Student Travel Award, ACM SIGKDD
- 2015 EDIC Fellowship, EPFL

SELECTED PUBLICATIONS

- 2021 **Cumulants of Hawkes Processes are Robust to Observation Noise**
W. Trouleau*, J. Etesami*, N. Kiyavash, M. Grossglauser, P. Thiran. *ICML 2021*.
- 2021 **A Variational Inference Approach to Learning Multivariate Wold Processes**
J. Etesami*, W. Trouleau*, N. Kiyavash, M. Grossglauser, P. Thiran. *AISTATS 2021*.
- 2020 **Quantifying the Effects of Contact Tracing, Testing, and Containment Measures in the Presence of Infection Hotspots.**
L. Lorch, H. Kremer, W. Trouleau, S. Tsirtsis, A. Szanto, B. Schölkopf, M. Gomez-Rodriguez. Preprint.
- 2019 **Learning Hawkes Processes Under Synchronization Noise**
W. Trouleau, J. Etesami, M. Grossglauser, N. Kiyavash, P. Thiran. *ICML 2019*.
- 2019 **Learning Hawkes Processes from a Handful of Events**
F. Salehi*, W. Trouleau*, M. Grossglauser, P. Thiran. *NeurIPS 2019*.
- 2018 **Stochastic Optimal Control of Epidemic Processes in Networks**
L. Lorch, A. De, S. Bhatt, W. Trouleau, U. Upadhyay, M. Gomez-Rodriguez. Machine Learning for Health Workshop at NeurIPS, 2018. *ML4H 2018*.
- 2017 **Prev. chemotherapy to control soil-transmitted helminthiasis averted more than 500'000 DALYs in 2015**
A. Montresor, W. Trouleau, D. Mupfasoni, M. Bangert, S.A. Joseph, A. Mikhailov, C. Fitzpatrick. *Transactions of The Royal Society of Tropical Medicine and Hygiene*, 2017.
- 2016 **Just one more: Modeling binge watching behavior**
W. Trouleau, A. Ashkan, W. Ding, B. Eriksson. *KDD 2016*.

* Equal contribution