

TAO LIN

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EDUCATION

École polytechnique fédérale de Lausanne, Switzerland

Sep. 2014 - Present

Master in Communication Systems, focus on data science.

Core Courses: Pattern Classification and Machine Learning, Mathematics of Data: from Theory to Computation, Big Data, Introduction to Natural Language Processing, Parallelism and Concurrency, TCP/IP Networking, and Algorithm.

Zhejiang University, China

Sep. 2010 - Jun. 2014

Bachelor of Engineering in System Science and Engineering (with honor).

Overall GPA : 3.83/4.0 (87.69/100), Major GPA : 3.93/4.0 (88.42/100)

Relevant Courses: Calculus, Linear Algebra, Differential Equations, Probability, Applied Statistics, Operational Research, Control Theory, Object-Oriented Programming, Computer Network, and some core courses of Electrical Engineering.

WORK EXPERIENCE

Teaching Assistant

Sep. 22, 2016 - Dec. 22, 2016

Master Level Course: Machine Learning

EPFL, Switzerland

- Assisted in the design and the maintenance of practical/theory exercises and projects.

Data Analyst Intern

Jun. 23, 2016 - Sep. 23, 2016

Internship at Mitobridge Inc.

Boston, USA

- Responsible for the project: Prioritization of Novel Indications for Existing Pharmaceutical Targets.
- Implemented various approaches to retrieve data from the Internet and processed the dirty datasets through traditional NLP techniques.
- Designed and developed the workflow for data reconciliation and undermined the potential indication for existing targets.

Data Analyst Intern

Feb. 22, 2016 - Jun. 22, 2016

Internship at LISP Lab, EPFL

Lausanne, Switzerland

- Built a distributed crawler to retrieve the publications of NCBI.
- Designed and implemented a distributed text mining algorithm through Spark to evaluate the co-occurrence score of terms in the sentence- and document- level.

PUBLICATIONS

Conference

- **Tao Lin¹, Tian Guo¹, Karl Aberer. TreNet: Hybrid Neural Network for Learning the Local Trends in Time Series.** The 5th International Conference on Learning Representations (ICLR 2017), Toulon, France, 2017 (Under review)

Journal

- **Zhenyu Wen, Renyu Yang, Peter Garraghan, Tao Lin, Jie Xu and Michael Rovatsos. Fog Orchestration for IoT Services: Issues, Challenges and Directions.** IEEE Internet Computing, IEEE Computer Society (To appear, SCI-IF = 1.713 and Q1)

¹These two authors contributed equally.

- *Laurent Mouchiroud, Vincenzo Sorrentino, Evan G. Williams, Matteo Cornaglia, Michael V. Frochaux, Tao Lin, Amandine A. Nicolet-dit-Félix, Gopal Krishnamani, Tarik Ouhamad, Martin A.M. Gijs, Bart Deplancke, Johan Auwerx. The Movement Tracker: A flexible system for automated movement analysis in invertebrate model organisms. Current Protocols in Neuroscience.*

RESEARCH WORK

- | | |
|--|---|
| Sequence Mining with Convolutional Recurrent Neural Network
<i>Master Thesis at LSIR</i> | Aug. 2016 - Present
<i>Lausanne, Switzerland</i> |
|--|---|
- Proposed a framework that aims to learn from noisy and non-stationary time series and then forecasting the future trend of the time series based on such learned features.
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|---|-----------------------|
| Parallel Composition of Multi-Cloud Services | Oct. 2015 - Jun. 2016 |
|---|-----------------------|
- Modeled the uncertainty and security problem of QoS service selection on the Clouds, and transferred the real problem to a constrained multi-objective optimization problem.
 - Designed a scalable genetic algorithm to solve the composition of multiple-Cloud services in parallel.
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|--|---|
| Cross-Domain Recommender System
<i>Semester Project at LPD</i> | Feb. 2015 - Dec. 2015
<i>Lausanne, Switzerland</i> |
|--|---|
- Designed and established a *Collaborative Filtering algorithm* on the top of *Spark* for Amazon dataset.
 - Proposed a novel path-based similarity extension metric to compute the inter-item similarities over several domains, and leverages differential privacy mechanism to cope with the privacy aspect.
 - Tackled the “heterogeneity”, “privacy” and “scalability” challenges of recommender system.
 - Improved the recommendation quality over alternative approaches by a margin of 6.2%, and scaled up by 5.2× when increasing to a cluster size of 15.

HONORS & AWARDS

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| · Teaching Assistant Award for Machine Learning | 2016 |
| · Zhejiang University Outstanding Graduates | 2014 |
| · 1st prize of MITSUBISHIELECTRIC Automation Competition | 2013 |
| · Excellent Merit Student, Zhejiang University | 2011, 2012, 2013 |
| · 1rd prize of Excellent Undergraduate Scholarship, Zhejiang University | 2011 |

TECHNICAL STRENGTHS

Tools	Git, L ^A T _E X, Vim
Operating Systems	Linux, OS X
Programming Languages	Python, Scala, Java, R, Matlab, C/C++, SQL, PHP
Frameworks and Platforms	Docker, Apache Hadoop, Apache Spark, MongoDB, Google Cloud, Tensorflow

REFEREES

Guerraoui Rachid	Distributed Programming Laboratory rachid.guerraoui@epfl.ch
Martin Jaggi	Machine Learning and Optimization Laboratory martin.jaggi@epfl.ch
Karl Aberer	Distributed Information Systems Laboratory karl.aberer@epfl.ch