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 sentence- and document- level.

PUBLICATIONS

Conference

· ***Tao Lin***[1], *Tian Guo*[1], *Karl Aberer*. **TreNet: Hybrid Neural Network for Learning the Local Trends in Time Series.** The 5^{th} 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)

[1]These 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 Ouhmad, 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 Aug. 2016 - Present
Master Thesis at LSIR *Lausanne, Switzerland*

· 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 learnt features.

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.

Cross-Domain Recommender System Feb. 2015 - Dec. 2015
Semester Project at LPD *Lausanne, Switzerland*

· 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

· 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, LaTeX, 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