Edouard Fouché

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Machine Learning Researcher

Summary

I am a French engineer and a Ph.D. candidate in Machine Learning at the Karlsruhe Institute of Technology (KIT), under the supervision of Prof. Dr.-Ing. Klemens Böhm. I hold a master's degree in Computer Science from KIT and a master's degree in Engineering from ESIEE Paris. My research focuses on:

- Unsupervised Learning in High-Dimensional Data Streams
- Correlation Analysis
- Bandit Algorithms
- Outlier Detection / Clustering

Experience

From 11/16 to now: Researcher at KIT

Preparing my doctorate thesis in the field of Machine Learning under the supervision of Prof. Dr.-Ing. Klemens Böhm. Supervision of students' thesis. Participation in teaching activities at the chair: Data Mining lab course and oral/written examinations. Member of the DFG Research Training group 2153: "Energy Status Data - Informatics Methods for its Collection, Analysis and Exploitation". (See **Selected Publications**)

From 04/15 to 10/16: Graduate Research Intern at IBM R&D

Creation and development of *ibmdbpy*, an open-source Python interface for data manipulation and in-database algorithms in IBM dashDB and IBM DB2. Accelerating Python Analytics by seamlessly pushing operations into the underlying database for execution to benefit from in-database performance-enhancing features. Publication and talk at LWA15 in Trier. Talk at PyData Berlin 2016.

Education

2013-2016	M.Sc. in Computer Science at Karlsruhe Institute of Technology (KIT) Specialization: Cognitive Systems and Machine Learning **Graduated with 1.4 - German GPA (Very Good)**
2010-2015	M.Sc. in Engineering at ESIEE PARIS Specialization: Computer Science **Graduated with highest honours and special distinction**
2010-2013	B.Sc. in Mathematics/Computer Science at Paris-Est MLV University **Graduated with highest honours**

Skills

Languages:	French - Native speaker English - Full proficiency German - Full proficiency Currently learning Spanish	
Computer Science:	Data Mining, Neural Networks	(Very good knowledge)
	Scala, Python, R	(Very good knowledge)
	Spark, SQL	(Good knowledge)
	Algorithms, Databases	(Good knowledge)
Also familiar with:	Adobe CS6, IBM SPSS, Git, Web development, Agile Software Development, CRM, Entrepreneurship, Cognitive Systems and Distributed Computing.	

Selected Publications

2019 - Monte Carlo Dependency Estimation.
E. Fouché & K. Böhm, Proceedings of the 31st International Conference on Scientific and Statistical Database Management (SSDBM '19), July 23–25, 2019, Santa Cruz, CA, USA. **Best Paper Award**.
2019 - Scaling Multi-Armed Bandit Algorithms.
E. Fouché, J. Komiyama & K. Böhm, Proceedings of the 25th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD '19), August 4–8, 2019, Anchorage, AK, USA.
2019 - Unsupervised Artificial Neural Networks for Outlier Detection in High-Dimensional Data.
D. Popovic, E. Fouché & K. Böhm, Proceedings of the 23rd European Conference on Advances in Databases and Information Systems (ADBIS '19), September 8–11, 2019, Bled, Slovenia.
2019 - Reducing Energy Time Series for Energy System Models via Self-Organizing Maps.
H. Yilmaz, E. Fouché, T. Dengiz, L. Krauß, D. Keles & W. Fichtner. Abstract/Preprint on demand.

Extracurricular Projects & Activities

2019: Member of a Roller Derby League (rocKArollers). Promoting gender equality and non-discrimination.

2017: Started blogging at https://edouardfouche.com

2015: Member of the college group "Machine Learning Karlsruhe"

2014: DATA MINING CUP
Each year about 100 educational institutions from over 25 countries take part in the DATA MINING CUP competition, which is organized by Prudsys AG, one of the leading data mining companies. I participated in a team of master's students at KIT in this contest, and the team reached the second place worldwide.

2010 – 2013: Founder of ESIEE Photographic Club

Honors & Awards

2018 - Selected participant in the Software Campus program
2015 - Outstanding International Academic Career - "Parcours d'excellence" ESIEE PARIS 2015
2014 - DATA MINING CUP 2014, Prudsys AG: 2nd place worldwide
2012 - Descartes Photographic Campus Contest: 1st place

Personal interests

Piano, silver and digital photography, travelling, trekking, roller derby.
Photo gallery: https://flickr.com/edouardf/
LinkedIn: https://linkedin.com/in/edouardfouche

More information about me: https://edouardfouche.com