Data Mining Researcher / Senior Data Scientist

— A Curriculum Vitae compiled on 20th July 2020.

Personal Data

Full name	Edouard Pierre Joseph Fouché
Nationality	French
Website	https://edouardfouche.com (incl. long CV)
Find me on	LinkedIn , Google Scholar, Instagram
Availability	On Request

Skills

Expertise	**Data Mining / Machine Learning**, Algorithms, Visualization
Languages	**French** (Native) – **English**, **German** (Both with full proficiency)
Programming	**Python** (~6 years), **Scala** (~4 years), **R** (~3 years). Prior Exposure: Java, C, C++
Soft skills	Leadership, Intercultural Communication, Agile Methodology, Lean
Familiar with	Git, Linux, Databases, LaTeX, Adobe & Office Suite, Learning virtually anything

Work Experience

2016-2020	**Researcher at the Karlsruhe Institute of Technology (KIT)**, Germany. – Created 5 major algorithms: MCDE, S-MAB, kj-NN, SGMRD, AnyGrad. – Supervised 10+ student theses (Master/Bachelor level). – Worked with 2 labs (UIUC, U of Tokyo) and 2 industry partners.
2015-2016	**Working student at IBM R&D GmbH**, Böblingen, Germany. – Created *ibmdbpy*, an open-source interface between Python/Databases, which became the topic of my Master's thesis at KIT, written in collaboration with IBM.
2014-2016	**Working student at KIT**, Germany. – Teaching assistant for the CRM lecture and the Data Mining lab courses.

University Education

2016-2020	**Ph.D. (Dr.-Ing.) in Data Mining** at the Karlsruhe Institute of Technology (KIT), advised by Prof. Dr.-Ing. Klemens Böhm – Thesis: "Estimating Dependency, Monitoring and Knowledge Discovery in High-Dimensional Data Streams". Passed with highest grade and distinction (1.0 German GPA, Summa Cum Laude).
2015-2016	**Master of Computer Science (M. Sc.)** at the Karlsruhe Institute of Technology (KIT). Graduated with 1.4 German GPA (Very Good).
2010-2015	**Diplôme d'Ingénieur (Dipl. Ing. / M. Sc. Engineering)** at ESIEE Paris. Major: Computer Science. Graduated with highest honours and special distinction.

Honors & Awards

2019	**Best Paper Award** at Scientific and Statistical Database Management (SSDBM).
2018	**Software Campus**: Selected in the program; includes a €100K research grant.
2015	**Parcours d'Excellence** ESIEE Paris 2015 (Category: International).

Personal Interests

Photography (Analog/Digital), Travel/Hiking, Roller Derby (Coach at Roller Derby Karlsruhe).

Research Interests

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

List of Publications

In Conference Proceedings

- **Edouard Fouché**, Alexander Eckert and Klemens Böhm. 'In-Database Analytics with ibmdbpy'. In: *SSDBM*. ACM, 2018, 31:1–31:4. DOI: 10.1145/3221269.3223026
- **Edouard Fouché** and Klemens Böhm. 'Monte Carlo Dependency Estimation'. In: *SSDBM*. Best Paper Award. ACM, 2019, pp. 13–24. DOI: 10.1145/3335783.3335795
- **Edouard Fouché**, Junpei Komiyama and Klemens Böhm. 'Scaling Multi-Armed Bandit Algorithms'. In: *KDD*. ACM, 2019, pp. 1449–1459. DOI: 10.1145/3292500.3330862
- Daniel Popovic, **Edouard Fouché** and Klemens Böhm. 'Unsupervised Artificial Neural Networks for Outlier Detection in High-Dimensional Data'. In: *ADBIS*. Lecture Notes in Computer Science. Springer, 2019, pp. 3–19. DOI: 10.1007/978-3-030-28730-6_1
- Avipsa Roy, **Edouard Fouché**, Rafael Rodriguez Morales and Gregor Möhler. 'In-Database Geospatial Analytics using Python'. In: *ARIC@SIGSPATIAL*. ACM, 2019, pp. 17–24. DOI: 10.1145/3356395.3365598

In Journal Proceedings

- Hasan Ümitcan Yilmaz, **Edouard Fouché**, Thomas Dengiz, Lucas Krauß, Dogan Keles and Wolf Fichtner. 'Reducing energy time series for energy system models via self-organizing maps'. In: *Information technology* 61.2-3 (2019). 37.06.01; LK 01, pp. 125–133. ISSN: 2196-7032, 1611-2776. DOI: 10.1515/itit-2019-0025
- **Edouard Fouché**, Alan Mazankiewicz, Florian Kalinke and Klemens Böhm. 'A Framework for Dependency Estimation in Heterogeneous Data Streams'. In: *Distributed and Parallel Databases* (2020). DOI: 10.1007/s10619-020-07295-x

Under Review

- **Edouard Fouché**, Yu Meng, Fang Guo, Honglei Zhuang, Klemens Böhm and Jiawei Han. 'Text Outlier Detection with Self-Supervision'. In: *(Currently under review)*. Vol. XX. X. 2020, pp. XX–XX. DOI: XX.XXXX
- **Edouard Fouché**, Florian Kalinke and Klemens Böhm. 'Subspace Search in Data Streams'. In: *(Currently under review)*. Vol. XX. X. 2020, pp. XX–XX. DOI: XX.XXXX
- **Edouard Fouché**. 'Estimating Dependency, Monitoring and Knowledge Discovery in High-Dimensional Data Streams'. PhD thesis. Karlsruhe Institute of Technology, 2020. DOI: XX.XXXX