

Salma El Alaoui

Data Science master graduate

✉ s.elalaouitalibi@gmail.com

📄 salma-el-alaoui.github.io

🌐 [Salma-El-Alaoui](#)

🌐 [salmaelalaoui](#)

Education

- 2016–2017 **Master in Applied Mathematics & Data Science, *École Polytechnique***, Paris, France.
GPA: **A**
Advanced Optimisation, Deep Learning, Kernel Methods, Graphical Models, Advanced Learning for Text and Graph Data, Big Data Frameworks & Methods, Structured Data
- 2015–2016 **Exchange semester, *KTH (Royal Institute of Technology)***, Stockholm, Sweden.
GPA: **4,8/5**
Advanced Machine Learning, Artificial Intelligence, Statistical Methods for CS, Management & Strategy
- 2011–2016 **Engineering degree in Computer Science, *INSA de Lyon***, Lyon, France.
GPA: **15,19/20**, Rank: **8 out of 109**
Software Engineering, Data Mining, Probability & Statistics, Linear Algebra, Networks, Distributed Systems, Advanced Operating Systems, Project Management

Experience

- June - October 2017 **Machine Learning Research Intern, *RIKEN Center for Advanced Intelligence Project***, Tokyo.
 - Designed and implemented a new Variational Inference algorithm for Correlated Topic Models
 - Significantly improved document classification accuracy and model fit compared to the baselines
 - Designed a stochastic version for large-scale document collections and online settings, resulting in notable acceleration of convergence speed
- April - August 2016 **Data Scientist, Fraud team, Research Intern, *Axa Global P&C***, Paris, France.
 - Used graph-based Machine Learning methods to detect fraudulent insurance claims and networks
 - Improved the baseline model by constructing a relational representation of the data
 - Tackled the rareness and bias of labeled data by using semi-supervised learning approaches, resulting in a 40% improvement in the lift metric
- April - August 2015 **Data Scientist, R&D team, Intern, *Kantox***, Barcelona, Spain.
 - Designed a predictive model for risk management in Forex trading, using panel data
 - The model automated a previously manual and error-prone task, measurably improving the performance of the middle-office team
 - Converted my initial prototype into production code deployed into existing trading platform
- June - August 2014 **Software Engineer, Intern, *Finance 3.1/UpSlide***, Paris, France.
 - Designed and built an API and a web app offering personalized Cost of Capital calculation to Mergers and Acquisitions departments (<http://www.waccexpert.com/>)
 - Exceeded project's requirements by adding a functionality to analyze the Cost of Capital's range

Projects

- Collaborative Flitering** Implementation of (probabilistic) matrix factorization methods; comparison on the MovieLens and Jester datasets
- Blind Source Separation** Analysis and improvement of several algorithms to solve Independent Subspace Analysis; experiments on ECG, image and sound data
- Particle Filters** State of the art in particle Fltering/Smoothing methods, forecasting stock volatility
- Hobbies** Piano (obtained a diploma from the Moroccan Music Conservatory), Tennis

Skills

- Programming**
- Python (Scientific Libraries)
 - Tensorflow, Keras
 - Java, R, C++
 - SQL, HTML5, CSS3
 - JavaScript, D3.js
 - Matlab, LaTeX
- Languages**
- French (native)
 - English (fluent – TOEIC 965/990)
 - Spanish (intermediate)
 - Arabic (native)
- Systems**
- Hadoop, Spark
 - Distributed systems
- Software Engineering**
- Git
 - Tests, Code Reviews, Documenta-tion