



# Max Halford



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## EDUCATION

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### PhD in Mathematics and Computer Science – Université Paul Sabatier

2018–2021



- Machine learning applied to database query optimization
- Unsupervised machine learning
- Teaching assistant in data science and database classes

### MSc. Mathematics – Université Paul Sabatier

2014–2017



- Data analysis
- Data management
- Big data
- Machine learning
- Business intelligence
- Software engineering

### Mathematics Associate Degree – Toulouse School of Economics

2012–2014



- Real analysis
- Linear algebra
- Microeconomics
- Quantitative finance

## WORK EXPERIENCE (3 PREVIOUS POSITIONS)

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### HelloFresh – Berlin

02/2017–07/2017



- Machine learning applied to churn and customer lifetime metrics
- Collaborative filtering for recommending recipes to customers on a weekly basis
- Customer fraud detection
- Instigation and maintenance of custom built data pipelines

### Privateaser – Paris

04/2016–09/2016



- Full stack web development (Flask, ES6, LESS, SQL) to support a marketplace
- Helped transfer towards an onion/micro-service architecture
- Sprint/features/AGILE development workflow
- Contributed to building a data management and analysis pipeline

### INSA Mathematics Department (GMM) – Toulouse

04/2015–07/2015



- Probabilistic modeling of population growth with continuous Markov Chains
- Development of a genetic algorithm to estimate model parameters
- Software development and testing in Python

## Open source software



I develop and maintain various open source projects related to data science. Most notably, I actively maintain [creme](#), which is a Python library for online machine learning. I have also developed a toolkit for evolutionary algorithms called [eaopt](#) and a factor analysis library called [prince](#). I also have a personal machine learning toolkit called [xam](#).

## Kaggle competitions



I'm a Kaggle Master and was ranked in the top 250 across the world. I enjoy competitive data science and I find it to be a great way to sharpen my skills.

## Consulting



I occasionally do consulting work related to data science. Mostly I write machine learning exercises and teach data science courses. I also advise on machine learning project architectures. In general I enjoy teaching, whether it be as a TA at university or in a consultant position.

## SKILLS ---

<b>Programming</b>	Very experienced in Python, JavaScript, and Go.
<b>Databases</b>	Strong knowledge of relational databases; experience with NoSQL.
<b>Data analysis</b>	Numerous case studies done during university projects, internships, and competitions.
<b>Machine learning</b>	Solid theoretical knowledge of the mathematical concepts and hands-on experience.
<b>Web</b>	Hands-on practice of "modern" JavaScript (React, Vue.js, Webpack, etc.)
<b>Code quality</b>	Healthy habits regarding coding conventions, documentation, and testing.
<b>Writing</b>	Keen interest in making documentation and writing blog posts.
<b>Team working</b>	Well-versed in AGILE principles and experienced in pair/mob programming.
<b>Languages</b>	Fluent in English and French. Proficient in Spanish.

## DISTINCTIONS ---

Finalist of the International Data Analysis Olympiads (IDAO)	2020
Finalist of the Data Science Games	2018
Winner of « <i>DataConnexions</i> », a national open data competition	2016
Regional mathematics prize winner at middleschool and highschool	2009, 2011, 2012

## SELECTED TALKS ---

Toulouse Data Science Meetup	28/05/2019
PyData Amsterdam 2019	11/05/2019
Toulouse Data Science Meetup	22/03/2016

## HOBBIES ---

— Modern art  
— Running

— Cooking  
— Reading

— Programming  
— Travelling