Marc **Desgroseilliers**

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Data scientist with a strong background in statistics and numerical computing. Keen to apply machine learning methods to real world problems

Professional Experience

Senior Machine Learning Engineer
Inpher

2020 - Present
Lausanne, Switzerland

- Design and adapt machine learning algorithms for cryptographical frameworks
- Project lead for privacy preserving xgboost implementation
- Analyze and validate numerical precision of multiple parties algorithms
- Design and implement a user facing system for private dataframes

Tree-based learning   Recommender systems   Data Independent Algorithms   Cryptography

Data Scientist
UPC

2018 - 2020
Zurich, Switzerland

- Fault detection in the internet distribution network (hybrid fiber coaxial)
- Manage and promote the CPD detection project, from exploratory data analysis to machine learning algorithm selection to deployment
- Increase positive hit rate from 10% to above 85%
- Generate visualizations and reports to help business partners and engineers better understand network status

Time series   Data engineering

Technical Support
Pix4D

2015-2018
Lausanne, Switzerland

- Created a training program: workshops, educational videos, online material
- Troubleshoot user issues, specialization in precision agriculture and multispectral imagery
- Managed the elaboration of an online certification program
- Liaised between technical and non technical teams

Online learning   Precision Agriculture

Education

Doctorate in Information Theory
Ecole Polytechnique Federale de Lausanne EPFL

2010 - 2015
Switzerland

- Thesis: Reducing Randomness in Matrix Models for Wireless Communication
- Courses: Probability | Signal Processing | Machine learning | Graphical Models

Erasmus Mundus Masters: Algebra, Geometry and Number Theory
University Paris-Sud XI

2008 - 2010
France

- Thesis: On some convex cocompact groups in real hyperbolic space (Published in Geometry and Topology)
- Courses: Geometric Group Theory | Number Theory | Differential Geometry |

Honours Bachelor in Mathematics
McGill University

2005 - 2008
Canada

- Courses: Algebra | Analysis | Algorithms and Data Structures

Publications

Desgroseilliers, M. (2015). *Reducing randomness in matrix models for wireless communication*. EPFL.

Kevin Deforth, N. G. M. G. D. J. M. V., Marc Desgroseilliers. (2022). Xorboost: tree boosting in the multiparty computation setting [Paper presentation]. In *Proceedings on privacy enhancing technologies* (Vol. 4).

Marc Desgroseilliers, E. P., Olivier Lévêque. (2013). Spatial degrees of freedom of mimo systems in line-of-sight environment [Paper presentation]. In *Ieee international symposium on information theory*.

Skills

Languages	English – Native	French –Native	Italian – C1
Tech Stack	Scala	Python	Python Data	R	SQL
Personal Interests	Mountaineering	Cycling