Alexandre Filiot

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IN BRIEF

My research interests and engineering topics centre on the application of machine learning to bioimages as part of translational research projects. I am dedicated, attentive and eager to improve patients care at my own level.

INTERESTS

Digital pathology (molecular subtyping, outcome prediction) • **Image and signal processing** (whole slide imaging, medical imaging, fluorescence) • **Machine learning and bio-statistics for medical research** (survival analysis, clustering, time series) • **R&D project management** (design, interaction with clinicians, implementation, dissemination)

SKILLS

COMPUTER SKILLS

Advanced
Python (Pandas, OpenCV, OpenSlide, Scikit-Learn, Tensorflow 2, PyTorch) • R • Bash • LaTeX• Git

Familiar
Matlab • SQL • Java

LANGUAGES

English:
Fluent - TOEIC 950/990

Spanish:
Basic

PUBLICATIONS & TEACHING

Publications available online at afiliot.github.io/publications, teaching list available online at afiliot.github.io/teaching

MISCELLANEOUS

HOBBIES

• Hiking & mountains • Climbing • Photography

EDUCATION

ECOLE NORMALE SUPERIEURE PARIS-SACLAY | MSc
2018-2019 | Cachan (France) | Github
MSc in Mathematics, Data Science and Machine Learning (MSc MVA)

ENSAE PARIS | Dual Degree
2017-2019 | Saclay (France) | Github

UNIVERSITY OF AMSTERDAM (UVA) | Erasmus
January-June 2017 | Amsterdam
MSc in Stochastic and Financial Mathematics.

ECOLE CENTRALE DE MARSEILLE (ECM) | Grande École
2015-2017 | Marseille
Top french engineering school.

LYCÉE HENRI WALLON | Preparatory Class
2013-2015 | Valenciennes (France)

WORK EXPERIENCE

LILLE UNIVERSITY HOSPITAL @ INCLUDE | R&D Engineer
November 2019 - now | Lille | Gitlab

Learning-based medical research projects | Python, R, Java, Bash

• Statistical support for medical research • Digital pathology on Whole Slide Images • Federated learning with Inria Magnet team.

Project management

• Supervision of an engineer for a 1 year-project • Technical supervision of partnerships with academic and private actors • Writing of scientific protocols and applications to calls.

GUERBET | Research Intern
June-November 2019 | Paris

• Medical image reconstruction using Deep Learning | Python
Synthesis of standard contrast-enhanced brain MRIs with GANs. Implementation of a brand-new perceptual loss derived from a segmentation network.

BANQUE DE FRANCE | Data Scientist Intern
June-September 2018 | Paris

• Machine Learning applied to credit scoring | Python, R, SAS
Development of a machine learning model taht combines unbalanced classification and regression to predict the new European credit score.

• Natural Language Processing on audit report | R
Data engineering, visualisation (word cloud, correlation study) and sentiment analysis.