

Alexis LAIGNELET

PhD student in Machine Learning

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EDUCATION

Imperial College, Department of Computing | PHD IN MACHINE LEARNING

Sep. 2019 - present | London, UK

Topics: Deep Learning, Optimisation, Gradient methods, Proximal algorithms, Forward-Backward Stochastic Differential Equations, Monte Carlo, Error estimates, Stochastic processes, Euler scheme, Generalisation, Stability.

Thesis: 'Solving high-dimensional PDEs using deep neural networks?'. Supervisor: Dr Panos Parpas.

Imperial College, Department of Computing | MSc IN MACHINE LEARNING

Sep. 2018 - 2019 | London, UK - Passed with distinction

Topics: Machine Learning, Deep Learning (CNN, RNN, LSTM), NLP, Reinforcement Learning, Gaussian Processes, Bayesian Optimisation, Variational Autoencoder, GANs.

Thesis: 'Deep Learning of high-dimensional partial differential equations'.

École des Ponts et Chaussées ParisTech | 'DIPLOME D'INGENIEUR': MENG IN CIVIL ENG.

Sep. 2013 - 2014 | Paris, France - Passed with distinction (GPA 4.0/4.0)

Topics: Modeling, Optimisation, Dynamics, Mechanics.

Thesis: 'Energy dissipation in rock nets'

École des Mines ParisTech | MS IN APPLIED MATHEMATICS

Sep. 2010 - 2013 | Paris, France - Highest distinction (top 10%)

École des Mines is one of the best engineering French school. I followed the curriculum in Mathematics and Physics.

Thesis: 'Optimisation of the gaseous effluents processing system of an EPR'.

Lycée Carnot | 'CLASSES PREPARATOIRES': MPSI/MP*

Sep. 2008 - 2010 | Dijon, France

An intensive curriculum in mathematics, physics, computing for competitive entry into French engineering schools.

Admitted to École des Mines de Paris, on competitive examination, rank: 104/5000+

PROFESSIONAL EXPERIENCE

Eiffage | PROJECT MANAGER

Feb. 2017 - Aug. 2018 | Paris, France

- Led a team of 5 in the design and building of the energy recovery factory (budget: €500 M).
- Managed a research study on the earthquake resistance of a building complex (budget: €15 M).

Eiffage | STRUCTURAL ENGINEER

July 2014 - Feb. 2017 | Paris, France

- Produced data science driven insights for the infrastructural monitoring of Millaus Viaduc (highest pylons in the world and highest road bridge in Europe).

PROJECTS AND COMPETITIONS

Kaggle LANL Earthquake Prediction (top 29 %)

Hackaton - AI Hack 2018: California socioeconomic correlations

- Algothon 2019: multivariate autoregressive models boosted by social media data

Workshop Participation in HSBC's 'Machine Learning in Finance: Time Series Forecasting in Python'

Paper - B. Güler, A. Laignelet, P. Parpas. 'Towards Robust and Stable Deep Learning Algorithms for Forward Backward Stochastic Differential Equations', **NeurIPS Workshops 2019**.

- N. Frisiani, A. Laignelet, B. Güler. 'Combination of multiple Deep Learning Architectures for Offensive Language Detection in Tweets', 2019.

SKILLS

Languages English: fluent, French: mother tongue

Programming Working in Python, Matlab and \LaTeX . Familiar with R, SQL and Java

Data Science tools Numpy, Pandas, Scipy, Scikit-learn, Gensim, Keras, Pytorch, TensorFlow