Achraf SEDDIK

Curriculum Vitae

Paris Region - France
✉ seddik.achraf.1@gmail.com

Professional Experiences

Jan 2019 - **Crédit Agricole CIB – Data-Scientist - Quantitative Analyst and Researcher**

- *Predictive modelling*:
  - Bank's credit losses (stacking of linear models with R)
  - Loan prices (probabilistic model with python)
- *Research projects*:
  - Dimension reduction for credit losses model (bagging and boosting with R)
  - Natural Language Processing (NLP): Sentiment analysis for the trends of economic sectors (machine learning and deep learning models with python)
- *Automation and industrialisation*: Creation of a web application for modelling and production of risk parameter's (R shiny)
- *Lecturer*: Teacher in CACIB's internal data science training (Logistic model and Support Vector Machine courses with python)
- *Management of interns:* Xin Chen (Ecole Polytechnique), Alix Mathieu (ENSIIE), Abdellah Kaissari (ENS, MVA)

2015-2019 **Société Générale – Quantitative Analyst R&D – Risk department**

- *PDpit and LGDpit modelling*: Systemic factor projections, transition matrix calibration, LTV projections etc. (mainly linear models on R software)
- *R&D projects*: Development of a multi-model framework and a challenger model approach (Time series model, e.g. ARIMA and VAR models)
- *ICAAP Group methodology and framework*: Review of SG Group stress-testing methodology and framework, enhancement of model risk methodology
- *Regulatory and internal stress-test exercises*: EBA 2016, ACPR sectorial stress-test (lead), internal risk appetite stress-tests 2016 and 2017 (IFRS9 compliant framework)
- *EBA stress-test 2018*: methodological stream leader

2010-2015 **Research Assistant – Paris North Center of economic Research – Articles and Research studies:**

- "Determinants of Credit Spread changes during the crisis" (2014), Working paper.
- "The term structure of credit spreads with firm rescue" (2014), Working paper.
- "Theoretical analysis of credit risk models" (2012), - Working paper.
- "The role of liquidity in the subprime crisis" (2010), Working paper- Hofstra University.

2010-2020 **Lecturer - ESSCA, EMLV, Universities of Paris XIII and Paris VIII**

More than 720h delivered as a teacher in:

- "IT Probability and Statistics" – Master's in finance
- "Quantitative Finance on VBA" – Master's in finance
- "Probability and Statistics" – 3rd year of management License
- "Mathematical finance" – 2nd year of management License
- "Excel and IT" – 2nd year of Management License
- "Reinforcement in Mathematics" – 2nd year of Management License
- "Risk Management and Financial risks" – Master's in Finance

Education

2017-2018 **Executive Master in statistics and Big Data**, *University of Paris-Dauphine*

- *Advanced statistics*: Bayesian algorithms, functional data, estimations in large dimensions etc.
- *Machine learning*: Penalized regressions, Clustering, Bagging, Boosting etc.
- *Programming*: R, Python, SQL, Hadoop and Spark

2010-2015 **PHD in Credit Risk modelling**, Research units: *Financial Economics– Mathematics, University of Paris XIII – Sorbonne Paris-Cité*

- Analysis and critic of credit risk models.
- Practice of the Structural models of credit risk modelling (models based on option theory) and Intensity models (corporate bonds and CDS pricing)
- Corporate research and study of credit spread determinants
- Development of a stochastic model for Probability of default

2008-2010 **Master's in financial modelling**, *University of Paris XIII – Sorbonne Paris Cité*

- Training in stochastic calculus techniques and numerical methods in finance (VBA, Scilab),
- Mastering option pricing models (Vanilla and Exotics).

2004 **Scientific Baccalaureate**

Technical Skills

Statistics – Mathematics - Finance: Machine learning and predictive modelling (Financial risks, market risk, economic trends), probability and stochastic calculus, Statistical studies and regressions, Numerical methods in finance (Monte Carlo), Financial economics.

Programming, Math/Stat softwares: R, Python, VBA, Scilab, Matlab, SAS, Stata, E-Views

Databases: SQL, VBA, Neo4j

Office software: Latex, Lyx, Microsoft office, Oracle suite

Language Skills

French, English, Arabic: Trilingual

Italian, Spanish – Operational level

Other Activities

Music (Guitar teacher)**, Sports** (Running-Football), **Networking** (Youth in Finance – board member)