

# ISAQUE PIMENTEL

Model Validation | Quantitative Research | PhD

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Paris

## WORK EXPERIENCE

### Quantitative Risk Analyst

Natixis

Sep 2019 – Present Paris

Consulting mission in the Risk Model Validation team of the Model Risk Management department. Lead and manage independent validation reviews across counter-party credit risk models:

- Definition of model review: documentation, assumptions, input data check, independent model implementation, model risk assessment.
- Production of validation review reports.

**Reviewed models:** IMM Futures commodities diffusion model, IMM cap/floor CMS uncapitalized pricing.

### Postdoctoral Researcher

École Polytechnique

Nov 2018 – Apr 2019 Palaiseau

- Designed a non-intrusive regression method for solving dynamics programming equations.
- Analysed the impact of the fixed costs structure on the power plant valuation.

**Key achievement:** Produced 2 preprint articles and a Matlab pricing application for Bermudan option on futures contracts.

### Doctoral Researcher

EDF

Nov 2015 – Oct 2018 Palaiseau

- Analysed an asymmetric risk measure in the option hedging problem.
- Compared probabilistic numerical methods for solving control problems related to economic and financial problems.

**Key achievement:** Built collaborations resulting in 2 peer-reviewed articles and a C++ pricing/hedging application with asymmetric risk criterion.

### Quantitative Analyst Intern

BNP Paribas

May 2015 – Sep 2015 Paris

- Analysed the valuation of options on spread of VIX futures.
- Modelled the forward variance process including stochastic jumps.

**Key achievement:** Added a new model simulator in the internal pricing library written in ADA.

## PUBLICATIONS

- A. Balata, C. Huré, M. Laurière, H. Pham, and I. Pimentel. *A class of finite-dimensional numerically solvable McKean-Vlasov control problems*. 2018.
- E. Gobet, I. Pimentel, and X. Warin. *Option valuation and hedging using asymmetric risk function: asymptotic optimality through fully nonlinear partial differential equations*. 2018.

## EDUCATION

### École Polytechnique

PhD, Applied Mathematics

2015 – 2018

### Université Paris Diderot

Master, Statistics, Probability and Finance

2014 – 2015

### École Polytechnique

Diplôme d'Ingénieur, Applied Mathematics

2011 – 2015

### Instituto Tecnológico de Aeronáutica

Electronics Engineering

2010 – 2011

## SKILLS

Quantitative finance Risk management  
Stochastic modeling Project management  
Model implementation Review report  
Adaptability Critical thinking

## PROGRAMMING

C++ (Advanced) ●●●●●●  
Python (Intermediate) ●●●●●●  
Matlab (Intermediate) ●●●●●●  
ADA (Familiar) ●●●●●●

## LANGUAGES

Portuguese (Native) ●●●●●●  
French (TCF C1) ●●●●●●  
English (TOEIC 915) ●●●●●●