

# Daniel Mimouni

PhD Mines Paris  
Engineer from Centrale / MSc Imperial College

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15/10/1997 (27 year old), French  
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## EDUCATION

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### PHD CANDIDATE AT MINES PARIS PSL | 2022 - 2025

PhD in Applied Mathematics.

- **Industrial collaboration** with IFPEN : **Optimization, Optimal Transport, Reinforcement Learning, Stochastic Optimization**
- **Teaching assistant** for the *Data Science* course (Centre for Computational Biology)
- **MVA** (MSc) at ENS Paris (Ulm): Optimal Transport by Gabriel Peyré

### MSc AT IMPERIAL COLLEGE LONDON | 2019 - 2020

The Master's program in General Structural Engineering is ranked 3rd in the Shanghai ranking and is renowned for its focus on mathematics.

- Graduated with **distinction** (highest honor in the cohort).
- Relevant modules : Statistics (test theory, Monte Carlo, and quadrature methods), Reliability Theory (advanced probability, stochastic optimization), Nonlinear Mathematics (instability and equilibrium), Optimization of Equations, Finite Elements: Applied Mathematics and Numerical Integration.

### BSc AND MSc AT CENTRALE LYON | 2017 - 2021

Engineer degree (Grande Ecole) – MSc in Applied Mathematics.

- Engineering school consistently ranked among the top 3 in France for academic excellence.
- Relevant modules : Mathematics and Optimization, Statistics and Probability, Signal Processing and Fourier Theory, Computer Science and Data, Social Sciences, Economics, and Management.

### PREPARATORY CLASSES FOR GRANDES ECOLES | LYCEE HENRI IV AND LYCEE LOUIS LE GRAND | 2015 - 2017

A well respected 2 years of intensive course for the highly competitive entrance exams to top French engineering schools: Mathematics, Physics and Engineering Sciences.

## RELEVANT EXPERIENCES

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### IFPEN | PhD | 2022 – ONGOING | 3 YEARS

French public research institute focused on energy, transport, and environmental innovation - Applied Maths Dept.

- **Theoretical and applied contributions** published in **leading scientific journals** (SIAM, Annals of Operations Research, IEEE...).
- Participation in **international scientific conferences** (ISMP, ICCOPT, ICSP...).

Full list available at <https://dan-mim.github.io/publications/>

- Implementation and **industrial deployment** of efficient numerical resolution packages: RL and Stochastic Optimization.

### IDFM | DATA SCIENTIST | MAY 2021 – OCT 2022 | 1 YEAR and 6 MONTHS

Public authority managing transport in the Île-de-France region, responsible for coordinating and developing mobility services.

- Development of **predictive models** to assess the long-term impact of future public transportation systems in the Île-de-France region.
- Implementation of advanced predictive models for forecasting ridership of future Île-de-France transit systems (advanced regression models, nested logistic models), leveraging geographic and socio-economic parameters as well as current validation databases—processing 14 million data points daily.

### FREELANCE | DEVELOPER | 2021 – 2022 | 1 YEAR

Developed machine learning packages, web automation, and web scraping (Selenium) for various startups.

### VINCI CONSTRUCTION GRANDS PROJETS | ENGINEER INTERN | OCT 2020 – APRIL 2021 | 6 MONTHS

Research and Study Department.

- Optimization studies of Finite Element Equations through numerical integration (FEA).

### IMPERIAL COLLEGE LONDON | RESEARCH INTERN | MAY 2020 – OCT 2020 | 6 MONTHS

Master's Thesis in the Department of Nonlinearity and Structural Instabilities with Prof. Ahmer Wadee: Cost-effectiveness studies of bridge implementation methods.

- Optimization of nonlinear constrained equations using gradient methods (Finite Element Analysis, FEA),
- Analysis of scientific articles and optimization of physical and mathematical state-of-the-art models.

## COMPETENCES

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### Languages

French, English: bilingual  
German: proficient (B2)  
Hebrew: learning

### Computer skills

Python (pandas, sklearn...)  
SQL  
Matlab  
C++

### Interests

Chess (Elo rating of 1575)  
Piano (10 years of experience)  
Football (team captain in Centrale)  
Judo (10 years of competition)  
Magic (performed shows)