



Nail Baloul

PhD Student - Started in October 2024
CERMICS
École Nationale des Ponts et Chaussées - Institut Polytechnique de Paris



Education

September 2027
↑
October 2024

PhD in Applied Mathematics

Ecole nationale des ponts et chaussées, Champs-sur-Marne

- Under the supervision of Junior Professor Pierre Lissy (CERMICS), Associate Professor Thibault Liard (XLIM) and Professor Amaury Hayat (CERMICS).
- Traffic state reconstruction and management using mathematical analysis and machine learning.

September 2024
↑
September 2023

Master's Degree in Optimization

University of Paris-Saclay, Gif-sur-Yvette

- Advanced Optimization Techniques: convex analysis, calculus of variations, stochastic optimization, non-smooth optimization and game theory.
- Optimal Control and Dynamical Systems: optimal control of ODEs and constrained dynamical systems.
- Optimal Transport and Geometric Methods: geometric techniques in optimal transport problems and control systems, with an emphasis on practical applications.
- Programming Skills: Improved skills in scientific computing using Python, MATLAB, and Julia to implement and analyze optimization algorithms.

July 2023
↑
September 2021

Master of Science in Analysis, Partial Differential Equations and Applications

University of Sciences and Technology Houari Boumediene, Algiers

- Advanced techniques for analysis of various types of PDE using Functional Analysis, Distributions and Semigroups.
- Trained extensively in numerical approximations of PDEs involving Galerkin methods and Finite element methods.
- Studied recent trends in mathematical modelling of epidemiology and fluid mechanics.
- Master's thesis entitled "General Decay for a viscoelastic plate equation with a time delay"

July 2021
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September 2018

Bachelor of Science in Pure Mathematics

University of Sciences and Technology Houari Boumediene, Algiers

- Main courses related to Analysis, Topology, Algebra, Geometry, Probabilities and Numerical Analysis.
- Bachelor's thesis entitled "On locally compact spaces and Alexandroff Compactification"



Work experience

August 2024
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April 2024

Master 2 Research Internship

UMA Laboratory, ENSTA Paris, France

- Under the supervision of Professor Sorin Mihai Grad (UMA). Study of proximal algorithms for constrained optimization problem.

June 2023
↑
January 2023

Master 2 Research Internship

AMNEDP Laboratory, Faculty of Mathematics, USTHB, Algiers, Algeria

- Under the supervision of Professor Ammar Khemmoudj (AMNEDP). Analysis of the well-posedness and asymptotic behaviour of a physical system.



Contact



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/in/nail-baloul



Paris, Ile-de France



Skills

- Qualitative Analysis
- Problem Solving
- Critical and Analytical Thinking
- Adaptability



Languages

French

C1

English

B2

Arabic

C1