

# Mathieu CHANAVAT



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chanavat.site

## PROFILE

I am a young graduate student seeking a PhD in category theory and functional programming.

My research interests lie in fundamental questions in computer science and how the tools developed can be used to solve more applied questions.

## COURSEWORK

### Mathematics

Logic, analysis, algebra, category theory, linear algebra, ...

### Computer science

IA, data science, functional programming, theoretical computer science

### Physics

Classical mechanics, electromagnetism, thermodynamics

## SOFTWARE SKILLS

Lean, Coq  
Python, C, C++, Java  
GitHub  
SQL

## SOFT SKILLS

Teaching & communication  
Teamwork  
Time management  
Planning  
Rigor

## LANGUAGE

French (native)  
English

## HOBBIES

Fictional and scientific writing  
Climbing  
Philosophy  
Chess

## EDUCATION

**2021 - 2022 - MASTER'S DEGREE IN MATH AND LOGIC - UNIVERSITY OF PARIS - FRANCE**

Category theory, set and model theory, proof theory.

**2020 - 2021 - MASTER'S DEGREE IN MATH - UNIVERSITY OF LILLE - FRANCE**

Functional analysis and advanced probabilities.

**2018 - 2021 - MASTER OF SCIENCE (MSc) - ECOLE CENTRALE LILLE - FRANCE**

General engineering with emphasis on data science and AI. Graduation in 2022.

**2018 - 2019 - BACHELOR'S DEGREE IN MATH - UNIVERSITY OF LILLE - FRANCE**

Algebra, analysis and topology courses. Granted with high honors.

**2015 - 2018 - CPGE MATHS/PHYSICS - LYCÉE BLAISE PASCAL - CLERMONT-FERRAND - FRANCE**

Intensive classes in maths, physics and informatics for three years after high school graduation.

## WORK AND TEACHING EXPERIENCES

**APRIL - AUGUST 2022 | RESEARCHER IN MATH | INRIA | PARIS - FRANCE**

Worked on Cubical Type Theory, a framework to do constructive mathematics in the context of homotopy type theory. Internship.

**APRIL - AUGUST 2021 | RESEARCHER IN CS | CIIRC | PRAGUE - CZECH REPUBLIC**

Developed new computational tools to investigate an open problem in mathematics. Internship.

**JULY - AUGUST 2020 | MATH WEB DEVELOPER | KWYK | PARIS - FRANCE**

Developed and coded math exercises in Python for educational startup Kwyk.

**SEPTEMBER 2019 - JUNE 2020 | TUTOR OF A MATH LESSONS | ÉCOLE CENTRALE LILLE | LILLE - FRANCE**

Taught of weekly lessons in mathematics to more than twenty international students, to help them catch up on French prerequisites to college mathematics. Volunteer experience.

**MARCH 2019 - MARCH 2020 | MEMBER OF THE STUDENT COUNCIL | ÉCOLE CENTRALE LILLE | LILLE - FRANCE**

Coordinated event logistics for students in École Centrale Lille. Volunteer experience