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https:/pauldubois98.github.io

# PAUL DUBOIS

## PROFILE

With a **mathematical** background, I am passionate about **technology** since high school.

I am committed to leveraging **science** for a better world.

## EXPERIENCE

**RESEARCH INGEENER / PHD, THERAPANACEA**                    Oct 2021 – Oct 2024

Developing adaptive radiotherapy optimization, using Artificial Intelligence (Reinforcement Learning)

**INTERN, ROOM FURNISHER**                    Jul - Sep 2020

Improved and brought together open-source projects to fit the needs of the startup.

**INTERN, AIRBUS**                    Jun - Sep 2019

Designed tools using SQL, HTML, CSS, and JS; Python for process automation.

**KITCHEN CLERK, RESTAURANT "LA PLAGE"**                    Jun – Jul 2018

**DISHWASHER, RESTAURANT "LA PLAGE"**                    Jun – Jul 2017

Skills gained: Teamwork, working under time pressure & efficiency.

## EDUCATION

**OXFORD, MSC MATHEMATICAL SCIENCES**                    Sep 2002 – Jul 2021

Grade average 68% (merit)

*Courses: Analytic Topology, Category Theory, Approximation of Functions, Theories of Deep learning, Networks, Random Matrix Theory*

Dissertation on Random Fractals and Branching Processes

**UNIVERSITY COLLEGE LONDON, MSCI MATHEMATICS**                    Sep 2016 – Jul 2020

Grade average: 85% (first)

*Key courses: Probability, Measure Theory, Spectral Theory, Functional Analysis, Multivariable Analysis, Differential Geometry, Analytic Number Theory, Graph Theory and Combinatorics, Elliptic Curves, Commutative Algebra, High-Performance Computing, Evolutionary Games and Population Genetics*

Research project on Modular forms mod 2: "Governing Fields for the Hecke Algebra"

## TEACHING

**DEEP LEARNING, CENTRALESUPÉLEC (PARIS-SACLAY, FRANCE)**                    Jan - Apr 2023

Course for HSB curriculum (3rd year engineering students), taught in French.

*Content: deep learning from scratch (back-propagation), perceptron, convolutions, optimizers & learning rates, RNN, U-net, V-net, GANs; with 5 Kaggles created as homework.*

**MATHEMATICS, ESSEC (CERGY, FRANCE)**                    Aug – Sep 2021

"Mathematics Refresher" course for DSBA (2nd year master students), taught in English.

*Content: basic methodologies for proofs; linear algebra, differential calculus, integration, and asymptotic analysis; prerequisites of the courses in the Master.*

**TUTORIAL SESSIONS, CENTRALESUPÉLEC (PARIS-SACLAY, FRANCE)**                    Oct 2021 – May 2024

Coding, Optimization, Algorithms & Complexity; taught in French.

## OTHER

GitHub repository: https://github.com/pauldubois98

**French** (Native Speaker); **English** (Fluent); ***Driving License (2017)***