Paul Dubois

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EDUCATION

MSci Mathematics, University College London **2016-2020**

*4th Year: Expected average **+80%***

Key courses: Advanced Modelling, High-Performance Computing, Spectral & Representation Theory

Extra courses (not for credits): Modular Forms, General Relativity, Cosmology

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

*3rd year: Grade average **85%***

Key courses: Functional & Multivariable Analysis, Probability, Graph & Measure Theory, Elliptic Curves

Extra courses (not for credits): Differential Geometry, Commutative Algebra, Mathematical Logic

1st Prize for best presentation of 2nd year research project

*2nd year: Grade average: **82%***

Key Courses: Real & Complex Analysis, Number Theory, Fluids Mechanics, Probability and Statistics

*1st year: Grade average **86%** (ranked 6th) – Winner of Undergraduate Prize in Mathematics*

Hight-School at Jean-Pierre Vernant High School, Pins-Justaret (France) **2015-2016**

2016 - French scientific Baccalaureate, math specialty - with highest honors (Mention Très Bien)

2015 - Scholarship Aptitudes Test (SAT), Score in math: 740/800 (top 3%)

RESEARCH & WORK EXPERIENCE

Internship at Airbus, participated in creation of new digital tools **Jun-Sept 2019**

Designed interactive dashboards to monitor project progress using SQL, HTML, CSS, and JS

Created python software to automate the data entry processes

Make Harvard (Hackathon in Harvard) **Feb 2019**

Developed hardware which translates real-life rotations into rotations in a modelling soft

Oxford Hack (Hackathon in Oxford) **Nov 2018**

Developed a tool that merges information from many documents into a single document

Porticode 3.0 (Hackathon in UCL) - *Prize Winner* **Nov 2018**

Created in 90's style website and game from scratch

Research Assistant (at distance) *for Susana Vasserman (PhD at Harvard, Eco. Dept.)* **Jan-Mar 2018**

Doing Textual Data Analysis with Python

Kitchen clerk in the restaurant "La Plage", Venerque (France) **Jun–Jul 2018**

Research Assistant *for Pierre Dubois (Professor at Toulouse School of Economics)* **Nov 2017**

Scrapping data for economic analysis of Antibiotic Resistance

Internship on Artificial Intelligence & Logic *under supervision of Professor Martin Strecker* **Aug-Sep 2017**

Created A.I. using various techniques (such as Genetic Algorithms, Neural Networks…)

Dishwasher in the restaurant "La Plage", Venerque (France) **Jun–Jul 2017**

Winner of Innovation Competition « Innovez » - 1000€ *(SVJ n°329)* **Feb 2017**

In the French scientific review "Science et Vie Junior" for a Morse decoding machine

Active member in educative FabLab info@lèze **2014-Present**

Led workshops to teach secondary school students 3D modelling and web development.

European Scouting **2011-Present**

Webmaster (since 2017), Chief (2016-2018), Leader of treetop patrol (2015-2016)

TECHNOLOGY SKILLS

GitHub repository: https://github.com/pauldubois98 Web Page: https://pauldubois98.github.io/

- **Python:** Oriented Object Programming (OOP), web scraping (with Requests, Ajax, or API), multi-threading, Graphical User Interfaces (GUI, with Tkinter & PyGame), data cleaning/formatting, data analysis (with Pandas, MatPlotLib, using Jupyter), High-Performance Computing (HPC, with Numba, NumPy, NumExpr, OpenCL), textual analysis *Advanced knowledge overall*
- **HTML, CSS & JavaScript** (produced smart web interfaces, such as interactive dashboards, web apps, and games)
- **Julia** fast mathematical computing, creation of public package ("ModularFormsModuloTwo")
- **Java & Kotlin** (Used for *Android Apps*, e.g.: Cauchy-Crofton, used for applying an abstract math formula to real life)
- **C/C++** (Created a group chat messenger platform to run over internet, also used for *hardware electronics*)
- **Latex** (and presentations with *Beamer*)
- **Electronics** using most common programmable microprocessors such as *Arduino* or *ESP* (created a wide range of objects from remote controlled boat to precision laser timer)

OTHERS

French: Native Speaker **English:** Fluent **Driving License:** 2 years