Luke Shaw

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Personal Statement

PhD in applied mathematics with experience in Hamiltonian Monte Carlo, generative diffusion models and stochastic methods. MSc in Computational Applied Mathematics from the University of Edinburgh. BSc in Physics from Princeton University, a member of the Ivy League. Commercial experience in embedded systems cybersecurity and software development.

Skills	
Lang.	English (Native), French (B1), Spanish (C1), Valencian (B1)
Prog.	Python, C++, C, LaTeX, Linux
Tech	Keras, Tensorflow, Pytorch, Git, Computer Vision
Maths	Bayesian Statistics, Machine/Deep Learning, Linear Algebra, Inverse problems, Generative Diffusion Models

Education

Universitat Jaume I (2021-2024)
PhD Applied Mathematics, *sobresaliente, cum laude*

University of Edinburgh (2019-2020)
MSc Computational Applied Mathematics, *with Distinction*. Average: **87.4 %**

Princeton University (2015-2019)
BSc Physics *cum laude* with Certificate in French Language and Culture. GPA: **3.84/4.0**

Employment

- ***Software Engineer*** *(March 2025 - present)*
  ironArray SLU, Castelló de La Plana, Valencian Community, Spain
  Work on the Python-Blosc2, C-Blosc2, and Caterva2 software packages. Create video and text content to promote ironArray's software products, especially Cat2Cloud.
- ***Postdoctoral Researcher*** *(November 2024 - March 2025)*
  Doctoral Researcher *(October 2021 - October 2024)*
  Universitat Jaume I, Castelló de La Plana, Valencian Community, Spain
  Wrote 7 research articles (geometric numerical integration, Hamiltonian Monte Carlo, generative diffusion models and stochastic gradient methods). Stays in Edinburgh (4 months) and Guatemala (5 months).
- ***Cybersecurity Researcher*** *(May 2020 - August 2020)*
  IKERLAN, Arrasate, Basque Country, Spain
  Developed Tensorflow 2.0 code for neural network attribution analysis (e.g. Layer-Wise Relevance propagation) for Side Channel Analysis for symmetric cryptography in embedded systems (industrial MSc thesis project).
- ***Computer Vision Intern*** *(June 2018 - August 2018)*
  Institute of Complex Systems, Univ. of South Bohemia, Nové Hrady, Czech Rep.
  Extended MATLAB code base for automated analysis of fish trajectories.
- ***Quantum Computing Researcher*** *(June 2016 - April 2017)*
  Princeton University, Princeton, NJ, USA
  Responsible for researching and simulating 3D microwave cavities for qubit control. Machined 3D cavity in university workshop. Trained to operate several Scanning Electron Microscopes.