

Alexandre Bismuth

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Education

Harvard University, Cambridge MA, USA

2026 – 2027

MS Data Science

- Coursework: *Data Science, Machine Learning, MLOps, Modern AI Systems, Distributed Training & Inference, Capstone Project*
- MIT Cross-registration: *How to Make (Almost) Anything, Sensorimotor Learning, Embodied Intelligence*

University of Oxford, Oxford, UK

2025 – 2026

MSc in Advanced Computer Science, Artificial Intelligence • 76% (*Distinction*)

- Coursework: *Geometric Deep Learning, Uncertainty in Deep Learning, Computer Vision, Game Theory, Database Systems*

École Polytechnique, Paris, France

2022 – 2025

BSc in Mathematics & Computer Science • GPA 3.8/4.0 (*Cum Laude*)

- Coursework: *Linear Algebra, Analysis, Statistics, Stochastics, Machine Learning, Algorithms, Comp. Architecture, Concurrency*
- International Honors Program, Stanford University: Tech Entrepreneurship and Artificial Intelligence • GPA 3.7
- Visiting student, University of Oxford: Mathematics and Computer Science • GPA 4.0

Experience

Graduate Researcher, British Open-Ended Learning & Discovery Lab, UK

Apr 2026 – Present

- Building large market LOB foundation models for high-frequency trading co-supervised by Prof Ani Calinescu and Prof Jakob Foerster
- Sped up training by >2x with Pallas kernels and improved LOB-Bench market realism by 20% via a novel GAN post-training method
- Probed state-space models, showing market-microstructure features are linearly decodable from activations and causally steerable

Undergraduate Researcher, University of Oxford, UK

Jan 2025 – Mar 2025

- Bachelor thesis on gunshot detection in tropical forests for wildlife protection with TinyML supervised by Prof Alex Rogers
- Developed a SoTA ML Arduino pipeline with 256kB RAM and 1MB memory via model compression and knowledge distillation

Software Development Engineer Intern, Amazon, Spain

Jul 2024 – Sep 2024

- Designed and implemented the migration of Amazon Charts' backend architecture over three months, reducing costs by \$10k/year
- Shipped features for Amazon Books, deploying 'Best Sellers' reports to South Africa/Poland and creating new targeting filters

Publications

Adversarial Post-Training of Foundation Models for High-Frequency Trading

ICAIF 2026

A. Bismuth*, K. Li*, A. Marti-Shahandeh, V. Mohl, J. Foerster, A. Calinescu

*Co-first authors

Understanding the Inner Workings of a State-Space Foundation Model for Limit Order Books

ICAIF 2026

V. Mohl*, A. Bismuth*, A. Marti-Shahandeh, G. Nigmatulin, K. Li, S. Zohren, J. Foerster, M. Cucuringu, A. Calinescu

Why don't Graph Transformers attend to the same token?

GDDL Workshop, NeurIPS 2026

A. Bismuth

Scaling Laws for Order Flow Generation

Under Review, ICLR 2027

K. Li, A. Marti-Shahandeh, V. Mohl, S. Y. Frey, G. Nigmatulin, A. Bismuth, L. Sánchez-Betancourt, S. Zohren, A. Calinescu, M. Cucuringu, B. Sarkar, J. Foerster

Awards

Anne Dias Griffin and Kenneth C. Griffin Fellow, Harvard University

Leadership

Treasurer, Duo Conseil X-HEC – oversaw a student consulting society as board member, generating \$60k of ARR

2023 – 2025

President, X'Srael – led a fully funded TechTrip enabling 42 students to interact with Israel's startup ecosystem

2022 – 2023

Skills & Interests

Programming Python, C++, C, CUDA, Kotlin, JavaScript, Scala, Haskell, SQL || PyTorch, JAX, TensorFlow, AWS, HPCs

Languages French (Native), English (Fluent – 116/120 TOEFL), Spanish (Fluent)

Interests Music: Singing, Piano, Guitar || Sports: Endurance Running, Motorsport, Rowing, Padel, Rugby