

Shane TAO

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EDUCATION

ESSEC & CentraleSupélec 2026 – 2027
M2 in Data Science & Business Analytics Paris, France

• **Focus:** Predictive Modeling, Large-scale Optimization, Financial Econometrics, and Machine Learning.
Université Paris-Saclay 2024 – 2025
M1 in Applied Algebra (UVSQ) Versailles, France

• **Specialization:** Applied Probability, Galois theory, Cryptography, and Computational Algebra.
The Chinese University of Hong Kong, Shenzhen 2018 – 2022
BSc in Mathematics (Graduated with Distinction) Shenzhen, China

• **Quant Foundations:** Stochastic Processes, Numerical Analysis, Lie Algebras, and Dynamical Systems.

ENTREPRENEURSHIP & INNOVATION

ProofMate (AI for Mathematical Reasoning) 2025 – Present
Founder & Lead Developer Station F, Paris

- **Technical Core:** Architected an AI-driven platform for extracting and visualizing proof structures via graph-based analysis.
- **Recognition:** Selected for **Station F - Fighters Program (Round 1)**; validating product within Paris-Saclay ecosystem.
- **Dev Stack:** Leading technical prototyping using Next.js, Python (Supabase), and GraphDB.

RESEARCH & PROFESSIONAL EXPERIENCE

MICS, CentraleSupélec Aug 2025 – Feb 2026
Research Assistant (Internship) Paris-Saclay, France

- **Quantitative Modeling:** Developed optimal control for multi-dimensional **Brownian systems** using HJB equations.
- **Statistical Computing:** Engineered high-performance Monte-Carlo simulations and finite-difference solvers in Python.
- **Optimization:** Applied policy-iteration methods to bridge stochastic proofs with numerical implementation.

Pembroke College, University of Cambridge Summer 2021
Summer Researcher (Mathematics) Cambridge, UK

- **Galois Theory:** Investigated field extensions and symmetry groups through intensive research seminars.
- **Mathematical Logic:** Conducted supervised independent study on core algebraic structures and their theoretical applications.

Network Coding Lab (NCLab), CUHK-SZ 2019 – 2021
Research Assistant (Intern) Shenzhen, China

- **Secure Computation:** Implemented **Secure Multi-party Computation (MPC)** protocols and encryption tools.
- **Algorithm Implementation:** Optimized data transmission efficiency using algebraic network coding techniques.

SKILLS & TRAINING

- **Financial Training:** HEC Paris Private Equity & LBO Summer School (Financial Modeling, LBO mechanics).
- **Quantitative:** GMAT Quant 90/90, Stochastic Calculus, Statistical Inference, Convex Optimization.
- **Technical:** Python (NumPy, SciPy, PyTorch), C++, SageMath, Git, \LaTeX , SQL.
- **Languages:** English (C1), French (B2), Mandarin (Native).