

JIAJUN HE

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🔗 <https://jiajunhe98.github.io>

EDUCATION

University of Cambridge

Doctor of Philosophy in Advanced Machine Learning

Supervisor: Prof. José Miguel Hernández-Lobato

UK

Oct 2024-

- Research Interest: probabilistic models; data and model compression; generative models

University of Cambridge

Master of Philosophy in Machine Learning and Machine Intelligence

UK

2022 - 2023

- Graduate with **Distinction** (ranked 1st of the cohort)
- Average Grade: **84%** (distinction condition: $\geq 75\%$)
- Award: **Postgraduate Tutors Prize for Distinction in Masters degree**
- Thesis: Data Compression with Variational Implicit Neural Representations (**graded 83.5%**)

University of Copenhagen

Master of Science in Bioinformatics

Denmark

2020 - 2022

- Average Grade: **11.875/12**
- Award: **Danish Governmental Scholarship for Academic Excellence**
- Thesis: Deep Ancestral Protein Sequence Reconstruction (**graded 12/12**)

Tsinghua University

Bachelor of Science in Biological Science

China

2016 - 2020

- Thesis: Cancer Subtype Identification by Somatic Mutations (**graded 92%**)

EXPERIENCES

University of Cambridge

Research Assistant in Machine Learning

Supervisor: Prof. José Miguel Hernández-Lobato

UK

Nov 2023 - Oct 2024

- Data and model compression; relative entropy coding; channel simulation.
- Probabilistic generative models; diffusion and consistency models.

Stevens Institute of Technology

Research Intern

Supervisor: Jordan Suchow

USA

July 2019 - Aug 2019

- Statistical modeling of social faces evaluation.

PUBLICATIONS

*Equal Contribution

- [1] F. Zhang*, **J. He***, L. I. Midgley, J. Antorán, J. M. Hernández-Lobato. Efficient and Unbiased Sampling of Boltzmann Distributions via Consistency Models. *Arxiv*.
- [2] **J. He**, G. Flamich, J. M. Hernández-Lobato. Accelerating Relative Entropy Coding with Space Partitioning. *NeurIPS 2024*.
- [3] L. Li*, **J. He***. Bidirectional Consistency Models. *Workshop on Structured Probabilistic Inference & Generative Modeling @ ICML 2024*.
- [4] **J. He***, G. Flamich*, Z. Guo, J. M. Hernández-Lobato. RECOMBINER: Robust and Enhanced Compression with Bayesian Implicit Neural Representations. *ICLR 2024*.
- [5] Z. Guo*, G. Flamich*, **J. He**, Z. Chen, J. M. Hernández-Lobato. Compression with Bayesian Implicit Neural Representations. *NeurIPS 2023 Spotlight*.

AWARDS AND ACHIEVEMENTS

Harding Distinguished Postgraduate Scholarship, University of Cambridge <i>PhD scholarship, valued at about 61,000 GBP per annum</i>	2024-2027
Distinction in Mphil Degree, University of Cambridge <i>Ranked 1st in Mphil in Machine Learning and Machine Intelligence</i>	2023
Postgraduate Tutors Prize, Fitzwilliam College, University of Cambridge <i>Award for Distinction in Mphil in Machine Learning and Machine Intelligence</i>	2023
Danish Governmental Scholarship for Academic Excellence <i>Award for academic excellence, valued at 215,105 DKK</i>	2021

TEACHING AND SUPERVISION

Supervision for Mphil Thesis	University of Cambridge
Fengzhe Zhang 2024 <i>Efficient Sampling of Molecular Energy Functions Using Consistency Models</i>	

ACADEMIC SERVICES

Reviewing: NeurIPS 2024, ICLR 2025

EXTRACURRICULAR

Contracted Contributor for Creativity Photos, Visual China Group	since 2017
Contracted Contributor for Creativity Photos, Getty Images	since 2017
Landscape Group Leader, Photography Team of the Student Art Troupe, Tsinghua University	2018 - 2019
Vice Captain, Photography Team of the Student Art Troupe, Tsinghua University	2017 - 2018