

# JIAJUN HE

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🌐 <https://jiajunhe98.github.io>

## EDUCATION

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### University of Cambridge

*Doctor of Philosophy in Advanced Machine Learning*

Supervisor: Prof. José Miguel Hernández-Lobato

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

UK

Oct 2024-

### University of Cambridge

*Master of Philosophy in Machine Learning and Machine Intelligence*

- 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%**)

UK

2022 - 2023

### University of Copenhagen

*Master of Science in Bioinformatics*

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

Denmark

2020 - 2022

### Tsinghua University

*Bachelor of Science in Biological Science*

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

China

2016 - 2020

## EXPERIENCES

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### University of Cambridge

*Research Assistant in Machine Learning*

Supervisor: Prof. José Miguel Hernández-Lobato

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

UK

Nov 2023 - Oct 2024

### Stevens Institute of Technology

*Research Intern*

Supervisor: Jordan Suchow

- Statistical modeling of social faces evaluation.

USA

July 2019 - Aug 2019

## PUBLICATIONS

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\*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 2409.07323*.
- [2] **J. He**, G. Flamich, J. M. Hernández-Lobato. Accelerating Relative Entropy Coding with Space Partitioning. In *NeurIPS 2024*.
- [3] L. Li\*, **J. He\***. Bidirectional Consistency Models. In *ICML 2024 Workshop on Structured Probabilistic Inference & Generative Modeling*.
- [4] **J. He\***, G. Flamich\*, Z. Guo, J. M. Hernández-Lobato. RECOMBINER: Robust and Enhanced Compression with Bayesian Implicit Neural Representations. In *ICLR 2024*.
- [5] Z. Guo\*, G. Flamich\*, **J. He**, Z. Chen, J. M. Hernández-Lobato. Compression with Bayesian Implicit Neural Representations. In *NeurIPS 2023 Spotlight*.

## AWARDS AND ACHIEVEMENTS

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

## TEACHING AND SUPERVISION

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

## ACADEMIC SERVICES

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**Reviewing:** NeurIPS 2024, ICLR 2025

## EXTRACURRICULAR

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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