# JIAJUN HE

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**EDUCATION University of Cambridge** UK Doctor of Philosophy in Advanced Machine Learning Expected Starting Time: Oct 2024 Supervisor: Prof. José Miguel Hernández-Lobato • Research Interest: data and model compression; generative models **University of Cambridge** UK Master of Philosophy in Machine Learning and Machine Intelligence 2022 - 2023 Graduate with **Distinction (ranked 1st of the cohort)** • Average Grade: **84%** (distinction condition: ≥ 75%) o Award: Postgraduate Tutors Prize for Distinction in Masters degree o Thesis: Data Compression with Variational Implicit Neural Representations (graded 83.5%) **University of Copenhagen** Denmark 2020 - 2022 *Master of Science in Bioinformatics* o Average Grade: 11.875/12 o Award: Danish Governmental Scholarship for Academic Excellence • Thesis: Deep Ancestral Protein Sequence Reconstruction (graded 12/12) **Tsinghua University** China Bachelor of Science in Biological Science 2016 - 2020 • Thesis: Cancer Subtype Identification by Somatic Mutations (graded 92%) EXPERIENCES **University of Cambridge** UK Research Assistant in Machine Learning Supervisor: Prof. José Miguel Hernández-Lobato

Nov 2023 - Oct 2024

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

## **Stevens Institute of Technology**

USA

Research Intern July 2019 - Aug 2019

Supervisor: Jordan Suchow

• Statistical modeling of social faces evaluation.

### Publications

- [1] **J. He**, G. Flamich, J. M. Hernández-Lobato. Accelerating Relative Entropy Coding with Space Partitioning. *Submitted to NeurIPS 2024.*
- [2] L. Li\*, **J. He**\*. Bidirectional Consistency Models. *ICML 2024 Workshop on Structured Probabilistic Inference & Generative Modeling*.
- [3] **J. He**\*, G. Flamich\*, Z. Guo, J. M. Hernández-Lobato. RECOMBINER: Robust and Enhanced Compression with Bayesian Implicit Neural Representations. *ICLR 2024*.
- [4] 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 PhD scholarship, valued at about 61,000 GBP per annum	2024-2027
<b>Distinction in Mphil Degree, University of Cambridge</b> Ranked <i>1st</i> in Mphil in Machine Learning and Machine Intelligence	2023
<b>Postgraduate Tutors Prize, Fitzwilliam College, University of Cambridge</b> Award for Distinction in Mphil in Machine Learning and Machine Intelligence	2023
<b>Danish Governmental Scholarship for Academic Excellence</b> Award for academic excellence, valued at 215,105 DKK	2021

#### TEACHING AND SUPERVISION

### **Supervision for Mphil Thesis**

University of Cambridge

Fengzhe Zhang 2024 Efficient Sampling of Molecular Energy Functions Using Consistency Models

#### ACADEMIC SERVICES

Reviewing: NeurIPS 2024, ICLR 2025

#### Programming Skills

Languages: Python, Matlab, R, Java, C++, LATEX

Packages & APIs: PyTorch, Pyro, Scikit-learn, NumPy, SciPy, Matplotlib, Pandas, Tidyverse(R), etc.

#### 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

<sup>\*</sup>Equal Contribution