JIAJUN HE

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⯁ https://github.com/jiajunhe98

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: $\geq 75\%$)
- Award: **Postgraduate Tutors Prize for Distinction in Masters degree**
- Thesis: Data Compression with Variational Implicit Neural Representations (**graded 83.5%**)

University of Copenhagen   Denmark
Master of Science in Bioinformatics   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   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   Nov 2023 - Oct 2024
Supervisor: Prof. José Miguel Hernández-Lobato

- 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**.

*Equal Contribution

AWARDS AND ACHIEVEMENTS

Harding Distinguished Postgraduate Scholarship, University of Cambridge   2024-2027
PhD scholarship, valued at about 61,000 GBP per annum

Distinction in Mphil Degree, University of Cambridge   2023
Ranked **1st** *in Mphil in Machine Learning and Machine Intelligence*

Postgraduate Tutors Prize, Fitzwilliam College, University of Cambridge   2023
Award for Distinction in Mphil in Machine Learning and Machine Intelligence

Danish Governmental Scholarship for Academic Excellence   2021
Award for academic excellence, valued at 215,105 DKK

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