

Tony RuiKang OuYang

📍 Cambridge, UK ✉ ro352@cam.ac.uk ☎ +44-07551887937 🌐 [Homepage](#) in [LinkedIn](#) 📄 [GitHub](#)

CURRENT POSITION

[Machine Learning Group](#) @ University of Cambridge

Research Assistant in Probabilistic Machine Learning

Supervisor: [Prof. José Miguel Hernández-Lobato](#)

- Generative Models, Neural Sampler, and Boltzmann Generator

Cambridge, UK

Oct 2024 – present

EDUCATION

University of Cambridge

MPhil in Machine Learning and Machine Intelligence

- Graduate with **Distinction (Grade: 77%, Top 20%)**
- Course Advisor & Thesis Supervisor: [Prof. José Miguel Hernández-Lobato](#)
- Thesis: [Energy-based Neural Sampler for Boltzmann Distribution](#) (Grade: 77.5%)

Cambridge, UK

Sep 2023 – Aug 2024

University of Oxford

Visiting Student in Mathematics and Statistics

- Supervisor: [Prof. Gesine Reinert](#) and [Prof. Geoff Nicholls](#)
- Fully funded by Harbin Institute of Technology, Shenzhen

Oxford, UK

Jan 2022 – Jul 2022

Harbin Institute of Technology, shenzhen

BEng in Data Science

- Graduate with **Distinction (Grade: 90%, Top 10%)**
- Thesis Supervisor: [Yi Zhao](#)
- Thesis: [Implicit Local Node Embedding Synchronisation for Graph Autoencoders](#) (Grade: 90%)

Shenzhen, CN

Sep 2019 – Jun 2023

EXPERIENCES

The Alan Turing Institute

Research Assistant

Supervisor: [Prof. Gesine Reinert](#)

- Research about scalable Graph Neural Network and Federated Learning for data privacy

London, UK

Apr. 2022 - Jul. 2022

iUniSpace

Machine Learning Engineer Intern

- Machine learning algorithms for Land Subsidence Detection based on satellite data

Shenzhen, CN

Jul 2021 - Sep 2021

PUBLICATIONS

*Equal Contributions

- [1] **R. K. OuYang***, B. Qiang*, J. M. Hernández-Lobato. [BNEM: A Boltzmann Sampler Based on Bootstrapped Noised Energy Matching](#). In *Arxiv 2409.09787*.
- [2] **R. K. OuYang**. [Energy-based Neural Sampler for Boltzmann Distribution](#). *MPhil Thesis*.
- [3] **R. K. OuYang**, A. Elliot, S. Limnios, M. Cucuringu, G. Reinert. [L2G2G: A Scalable Local-to-Global Network Embedding with Graph Autoencoders](#). In *Complex Networks and their Applications 2023*.

ACADEMIC SERVICES

Reviewing

- [NeurIPS Foundation Models for Science workshop 2024](#)
- [ICLR 2025](#)

SUPERVISION AND TEACHING

Supervision for MEng Thesis

Sunaabh Trivedi


University of Cambridge

Oct 2024 - present

SELECTED PROJECTS


The Family of Denoising Diffusion Probabilistic Models

Jan 2024 – Mar 2024

- Replicate codes and exps of DDPM and its variants (DDIM&ImprovedDDPM) from scratch
- Research on extension for Improved DDPM
- Open source: [GitHub Repo](#) 


Federated Curriculum Learning

Jan 2024 – Mar 2024

- Research on applying Curriculum Learning scheme on Federated Learning: self-paced learning, teacher-transfer and deep mutual learning
- Open source: [GitHub Repo](#) 

PPO in the Bayesian World

Nov 2023 – Jan 2024

- Research on performing Bayesian Optimization for Reinforcement Learning (Proximal Policy Optimization, PPO) hyper-parameters tuning
- Research on using multi-fidelity simulations to speed up tuning
- Open source: [GitHub Repo](#) 

AWARDS AND ACHIEVEMENTS

Distinction in MPhil Degree, University of Cambridge

2024

Ranked top 20% in MPhil in Machine Learning and Machine Intelligence

Travel and Research Grants, Wolfson College, University of Cambridge

2023

Award for supporting my travelling for conference

Outstanding Graduates, Harbin Institute of Technology (Shenzhen)

2023

Ranked top 10% in HITsz

Distinction in BEng Degree, Harbin Institute of Technology (Shenzhen)

2023

Ranked top 10% in BEng in Data Science

International Exchange Program Scholarship, HITsz

2022

Scholarship for visiting in Oxford, valued at about 200,000 CNY

OTHERS

Athletic

Player, Wolfson College (University of Cambridge) Football Varsity

2023 - 2024

Player, Harbin Institute of Technology (Shenzhen) Football Varsity

2020 - 2023

Captain, Harbin Institute of Technology (Shenzhen) Science School Football Team

2021 - 2023

2nd place of HITsz Football League Season 22-23

2023

2nd place of HITsz Football League Season 20-21

2021

2nd place of HITsz Futsal League Season 20-21

2021

3rd place of HITsz Football League Season 19-20

2020

Competitions

2nd Prize - Contemporary Undergraduate Mathematical Contest in Modeling

2021

1st Prize - National College Students Mathematical Competition

2020

2nd Prize - Contemporary Undergraduate Mathematical Contest in Modeling

2020

Services

Student Representative of Harbin Institute of Technology, shenzhen

2021

Languages

- Cantonese (1st Native)
- Chinese Mandarin (2nd Native)
- English (Professional working proficiency; IELTS 7.0)
- French (Elementary proficiency)