



PhD Position in Statistical Machine Learning

Dear Potential Applicant,

We are excited to announce PhD opportunities in the newly established **Epistemic Intelligence & Computation (EPIC) Lab** at the College of Computing and Data Science (CCDS), Nanyang Technological University (NTU), Singapore. The EPIC Lab, led by **Assistant Professor Siu Lun Chau**, is dedicated to advancing the theory and practice of Epistemic Machine Learning—building intelligent systems that recognise the limitations of their knowledge, effectively communicate their insights, and seamlessly collaborate with human users.

Our research is organised around three core directions:

1. **Uncertainty-aware Machine Learning,**
2. **Explainable Machine Learning**
3. **Preference modelling.**

Under these pillars, our research interests include algorithmic development in

- **Imprecise-probabilistic methods**(e.g., second-order uncertainty, credal sets, imprecise learning)
- **Precise-probabilistic methods**(e.g., kernel methods, Gaussian processes, hypothesis testing)

with applications in areas such as:

- **Human-in-the-loop/Human-AI collaboration**
- **Learning from choice and preference feedback**
- **Cooperative game theory**
- **Sequential experimental design** (e.g. active learning, Bayesian optimisation)
- **Causal inference**

Our mission is to address foundational and complex challenges in machine learning and AI through robust, transparent, and impactful research.

What We Look For

We are seeking candidates with a **Master's degree** in **Statistics, Mathematics, Machine learning, Computer Science, Physics**, or a related discipline. Strong proficiency in **mathematical reasoning** and **scientific communication** is highly desirable. Whether you have a specific interest in one or more of these areas, or are eager to explore topics that align with your background and our group's expertise, we can collaboratively determine the exact focus through discussion.

We welcome applicants from all backgrounds and are committed to fostering a **diverse, inclusive, and equitable research environment**. We believe that diversity enhances innovation and collaboration, and we are dedicated to helping all members of our team achieve their full potential.

What We Offer

1. **Fully-funded research student scholarships.** We offer fully-funded research student scholarships through NTU. Additionally, we may also apply for prestigious scholarships such as the SINGA and AGS scholarship from A*STAR and the AISG fellowship from AI Singapore.
2. **A dynamic research environment.** At EPIC Lab, we bridge the gap between **theory and practice**, tackling practical machine learning problems with mathematical rigor to produce solutions that are **robust, trustworthy, and reproducible**.
3. **International training and collaboration.** You will have opportunities to collaborate with leading global researchers and visit world-renowned labs, such as: Prof. Krikamol Muandet's Rational Intelligence Lab (CISPA Germany), Prof. Dino Sejdonovic's Kernels and Information Processing Systems group (AIML, Australia), Prof. Xiaowen Dong's Network and Society lab (University of Oxford, United Kingdom), Prof. Edwin Fong's Lab (University of Hong Kong) and Prof. Michele Caprio's Lab (University of Manchester, United Kingdom).
4. **Access to Singapore's vibrant AI ecosystem.** Singapore's thriving AI community offers unparalleled opportunities for interdisciplinary research and collaboration with top R&D institutes such as A*STAR and AI Singapore, as well as industry leaders like Meta and Bytedance.

About CCDS

The College of Computing and Data Science (CCDS), NTU Singapore's newest academic college, is a global leader in AI and computing research. Ranked 2nd in Artificial Intelligence and 8th in Data Science and AI by leading global metrics, CCDS is committed to solving complex global challenges through interdisciplinary research.

As a hub for cutting-edge technology and innovation, CCDS nurtures researchers equipped with the critical thinking, creativity, and technical expertise needed to excel in a rapidly evolving digital world.

How to Apply

If our lab's vision aligns with your interests, we invite you to contact us before formally applying to NTU. You can reach out to me at [a.siulun.chau\[at\]gmail.com](mailto:a.siulun.chau@gmail.com) with the subject line: New application for your group. In your email, we would like to see that you have spent a minimum amount of time to find out whether our research aligns well with your interests and have a thought whether I might be a good fit as your supervisor.

Note that you are **not** required to have a clear and thought-out research plan before getting in touch (although it is encouraged). In the email, please also attach (if applicable) your

1. transcripts;
2. latest CV; and
3. some written work demonstrating your research experience (e.g. a thesis, preprint, published papers)

We look forward to receiving your application.

Warm Regards,



Siu Lun Chau, DPhil (Oxon)

Assistant Professor

Epistemic Intelligence & Computation (EPIC) Lab

Nanyang Technological University