

September 4, 2026

PhD opportunity in the StatML CDT, funded by Meta

We are pleased to invite applications for a PhD position in the EPSRC CDT in Statistics and Machine Learning, based in the Department of Mathematics at Imperial College London. The position will commence on **Monday 28 September 2026**. It is fully funded by Meta and led by Professor Nick Heard, Dr Francesco Sanna Passino, and Professor Ed Cohen, with possible contributions from a wider supervisory team at Imperial and Meta.

The project will suit a candidate who is motivated by methodological questions arising from contemporary AI and large-scale data systems, and their impact in cybersecurity. The successful candidate will work on research questions related to the topics described below, both offering opportunities to develop new statistical methodology, machine learning models, and principled evaluation procedures for modern AI systems, with applications in cybersecurity problems.

(1) Prompt injection detection and statistical significance of LLM evaluations. AI agents use language models to plan consequential actions, but untrusted data can alter their behaviour through prompt injection. Detection systems, often based on smaller language models, classify prompts or complete agent trajectories as exploitative or non-exploitative. Their efficacy is typically estimated from relatively small evaluation sets, despite adversaries being able to probe a classifier and adapt their inputs. This project will investigate what can safely be inferred from such evaluations in an adversarial setting, how to design representative and statistically significant test sets, and whether recent research on language-model activations can help measure or increase test coverage.

(2) Role mining in access graphs with node attributes. In large distributed systems, access can be represented as a bipartite graph linking actors (including people, AI agents, computers, and programs) to resources such as databases, files, and network services. Access policies must grant permissions that are legitimately needed while avoiding unnecessary access: false negatives disrupt legitimate work, whereas false positives create latent risk. Attribute-based groups can simplify these policies and help predict appropriate access for new actors and resources, while distinct agent identities and short-lived sessions introduce new challenges. This project will investigate how to identify groups of actors and assets for which access is likely to be used, whether these predictions can be supported by human-understandable narratives generated or tested by language models, and whether sequences of actions can enable proactive blocking while maintaining acceptably low false-positive rates.

Across either topic, the emphasis will be on broadly applicable and statistically principled methods. The successful candidate will work closely with the Imperial supervisory team and researchers at Meta, drawing on complementary expertise in statistical machine learning, network and graph data, anomaly detection, cybersecurity, Bayesian methodology, and computational statistics. The precise research questions will be developed jointly between the candidate, the supervisory team, and the research team at Meta.

Funding. This is a fully funded four-year PhD studentship within the StatML CDT. The studentship provides a stipend at the UKRI rate with London weighting, together with a generous Research Training Support Grant (RTSG). The opportunity is open to both Home and Overseas applicants. Further details about funding and the StatML programme are available on the [StatML website](https://statml.io/). Note that the StatML CDT is part of the UK Government's [TechFirst scheme](#), which offers a stipend top-up of up to £10,000 per year to eligible students with Home fee status.

Candidate background and requirements. Candidates should have:

- A first-class or strong upper second-class Master's degree (or equivalent qualification) in Statistics, Mathematics, Computer Science, Machine Learning, or a closely related discipline, in line with Imperial College London's postgraduate research admissions requirements. Guidance on [accepted Overseas qualifications](#) is available on Imperial's website. Candidates who hold only a Bachelor's degree will not normally be considered;
- A strong foundation in statistical machine learning, probability, statistics, and uncertainty quantification;
- Intellectual curiosity to develop creative statistical solutions to open-ended research problems;
- Good programming skills, for example in Python, including the ability to interact with APIs;
- Strong written and verbal communication skills and the ability to work collaboratively;
- Fulfilment of Imperial College London's [postgraduate English-language requirement](#).

Prior experience in network data analysis, large language models, and representation learning would be advantageous but it is not essential. Prior research experience, including a substantial dissertation, research internship, open-source contribution, or publication, is desirable but not essential.

How to apply. To express interest in this studentship, please email statml.io.admissions@imperial.ac.uk, using the subject line "*Meta-funded PhD studentship – [Your Name]*" and attaching your CV and degree transcripts. Only shortlisted candidates will subsequently be invited to submit a formal full application to the StatML CDT (including personal statement and academic references).

Expression-of-interest deadline: Friday 11 September 2026, 12:00 noon (UK time). Expressions of interest received after this deadline will not be considered. Interviews are expected to take place during the week commencing 14 September.

Note that general admissions to the StatML CDT for 2026 entry are now closed, but this specific opportunity has become available and applications from eligible candidates are welcome. **This studentship is for entry on the 2026 StatML intake only.** Applications for the general October 2027 StatML intake will open separately later this year.

For further information about this opportunity, please contact statml.io.admissions@imperial.ac.uk.