

Leo Elmecker-Plakolm

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EDUCATION

Imperial College London

PhD Foundational ML/AI, Supervised by Dr. Matthew Wicker

MSc Computing (AI & ML), **Distinction**

London, UK

Jan. 2026 – Dec. 2028

Sep. 2024 – Sep. 2025

The University of Manchester

BSc (Honours) Computer Science, **First Class**

Manchester, UK

Sep. 2019 – June 2022

WORKSHOPS, PUBLICATIONS & PREPRINTS

Focus: certified robustness, generalization bounds, formal verification, and adversarial robustness

[P1] **Elmecker-Plakolm, L.**, Wicker, M. Certification-Enhanced Generalization Bounds. Accepted at NeurIPS 2026 (Main track).

[P2] **Elmecker-Plakolm, L.***, Fasterling, P.*, Sosnin, P.*, Tsay, C., & Wicker, M. Provably Safe Model Updates. SaTML 2026.

[P3] **Elmecker-Plakolm, L.**, Szpruch, L., Bose, J., & Wicker, M. Exposing Vulnerability Monoculture Through Systemic Adversarial Robustness. Under review at ICLR 2027.

[P4] Fasterling, P.*, **Elmecker-Plakolm, L.***, Sosnin, P.*, Tsay, C., & Wicker, M. Certifiably Safe Post-Training. COLT 2025 Workshop FoPt.

* Equal contribution.

EXPERIENCE

Software Engineer

August 2022 - September 2024

Bloomberg L.P.

London, UK

- Transitioned a system-wide report storage system to a new file format to improve read performance by 10x which enabled new workflows.
- Rearchitected and developed team's client-facing UI targeting the entire user base of 500+ clients.
- Founded ML Paper Reading Group, a monthly gathering of peers and experts in the AI field with a peak attendance of over 130, discussing exciting innovations presented in academic ML papers.

Summer Intern - Technology

June 2021 – August 2021

Barclays UK

Glasgow, UK

- Implement a backend system aiming to improve transaction monitoring capabilities 5-fold.
- Leveraged PL/SQL to contribute to a data transformation layer between two separate databases.
- Developed parts of a utility system in Java aimed to automatically call bash scripts on a fixed schedule.

Full Stack Software Developer

June 2020 – September 2020

Imago

Manchester, UK

- Co-developed a sailing club mobile application within a team of 2 applying Agile methods.
- Worked with Flutter as a frontend framework in conjunction with Firebase to create backend functionality.

PROJECTS

Imperial Research Project | Variational Inference Methods in Bayesian Networks December 2024 - March 2025

- Compared variational inference methods in Bayesian neural networks, both in function and weight space.
- Tested impact of context set perturbations on functional variational inference.

TypeScript Contribution | Type definitions for 'Symbols as WeakMap keys'

April 2023 - June 2023

- Contributed to the open-source GitHub repository with over 94,000 stars.
- Implemented a TC39 proposal to allow symbols as keys for 'WeakMap', 'FinalizationRegistry', and 'WeakSet'.

TECHNICAL SKILLS

Languages: C++, Python, TypeScript, SQL (Postgres)

Libraries: PyTorch, NumPy, Matplotlib

Mathematics: Convex Optimization, Concentration Inequalities, Generalization Bounds