

London
avi.semmler@outlook.com

Avi Semmler

Personal website
GitHub
LinkedIn

EDUCATION

DPhil in Engineering Science *Autonomous Intelligent Machines and Systems CDT* **2025 -**

Funded by Oxford Martin School for technical AI governance research

MSc Mathematical Sciences *University of Oxford* **2024 - 2025**

- Main courses: deep learning, machine learning algorithms, numerical linear algebra, computational biology, continuous optimisation; achieved distinction grade in all
- Dissertation title: Evaluating and Interpreting Transformers for DNA Sequence Alignment

BSc Discrete Mathematics *University of Warwick* **2021 - 2024**

- Awarded first class (approximate year marks: 86, 82, 85; in top 5 of cohort)
- Main topics: programming, algorithms, mathematics, statistics, mathematics of machine learning

A-levels *Menorah Grammar School* **2015-2021**

A*A*A* in Mathematics, Further Mathematics, and Computer Science

AWARDS

- Outstanding performance in first-year exams (University of Warwick, Department of Computer Science)
- Outstanding third-year project (University of Warwick, Department of Computer Science)

PUBLICATIONS

- [1] Matthias Englert, Ranko Lazic, **Avi Semmler**. [Implicit Regularization of AdaDelta](#). Accepted for Transactions on Machine Learning Research.
- [2] Matthias Englert, Ranko Lazic, **Avi Semmler**. [Image Restoration for Training Data Reconstructed from Trained Neural Networks](#). Withdrawn conference submission.

EXPERIENCE

Senior Teaching Assistant *Alignment Research Bootcamp Oxford* **January 2025**

- Gave lectures on interpretability of neural networks

Research Fellow *Pivotal Research Fellowship* **Summer 2025**

- Ran experiments confirming theory about SGD in deep linear networks, contributing to upcoming paper

AI Intern *Legal-Pythia LLP* **December 2024**

- Prototyped a content recommendation system

Machine Learning Research Collaborator *Computer Science Department, Warwick* **Summer 2024**

- Implemented novel technique for extracting audio data from trained neural networks

Undergraduate Research Support Scheme *Computer Science Department, Warwick* **Summer 2023**

- Used Python and Numpy to implement temporal-difference reinforcement learning and social graphs

AI Safety Discussion Group Facilitator *AI Society, Warwick* **Sep-Dec 2023**

- Facilitated sessions on risks of AI, doubling the number of participants compared to previous year

TECHNICAL SKILLS

Programming
Libraries

Python, Java, JavaScript, Git, \LaTeX , SQL, Jupyter notebook
PyTorch, matplotlib, einops, Wandb, inspect