

# Tom Pollak

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## EXPERIENCE

### Cisco Meraki

June 2023 – Present

*ML Software Engineer – Camera Intelligence Team*

*London / Remote, UK*

- Independently researched, designed, & implemented a novel unified search experience for the Meraki MV cameras using a custom embedding model, that runs and searches real-time with limited resources on camera.
- Currently technical lead of a team of 6. I manage camera firmware, model training, inference, system design. Product is set to be the "market differentiator" for the entire MV Camera platform and demoed at Cisco Live 2025.
- Developed production-ready 10K+ LOC C++ library and with full testing suite & benchmarks in GTest.
- Built and curated dataset of >200K objects and synthetic NLP queries, enabling classification and text-based search capabilities on camera.
- Lead a team at the Cisco San Francisco Hackweek 2023 for preliminary work on the project.
- Originally hired as a summer intern in 2022, rejoined full-time in 2023. [Intern Reference](#).

## EDUCATION

### University of York

June 2023

*BEng. Computer Science – First Class with Honours*

### Lady Manners School

2020

*A-Level – Further Maths (A), Maths (A), Computer Science (A), Physics (A)*

## PROJECTS

### Interpretability Research

August 2024 – Present

- Current project: Using Anthropic's Crosscoders to understand how a LoRA changes a model's behaviour.
- Contributed to the SAE lens library, (#321, #367) to improve caching activations using Huggingface datasets.
- First project: Investigated GPTs trained on 2D grid puzzles similar to ARC-AGI tasks. Trained an SAE, found features related to an individual puzzle task. [GitHub](#) | [Report](#).

### nanoViT

November 2024

<https://github.com/tom-pollak/nanovit>

- Minimal ViT implementation & training from scratch in PyTorch – [Created a tutorial for building a ViT from scratch](#).
- Single GPU training on CIFAR-10, working on multi-GPU replication of Better plain ViT baselines for ImageNet-1k.

### Claudette Pydantic

July 2024

<https://github.com/tom-pollak/claquette-pydantic>

- Adds Pydantic structured outputs through tool use for the Claudette library – [Example](#).

### NLP Image Retrieval with CLIP

September 2022 – June 2023

<https://tom-pollak.github.io/clip-index>

- University dissertation project – graded 80%. Built efficient NLP image search using CLIP and Faiss.

### Automated Horse Betting Software

December 2020 – July 2021

<https://github.com/tom-pollak/each-way-matcher>

- Discovers undervalued odds in "each-way" betting, uses an adapted 3-way Kelly Criterion strategy and expected logarithmic growth rate for ranking bets and stake.
- Calculates conditional probability of a horse finishing in a given place using the win odds of all horses.

## SKILLS

### Languages

Python, C++, Cuda C.

### ML

PyTorch, Numpy, Pandas, einops, Faiss, Huggingface, scikit-learn, Pydantic, Axolotl.

### Tools

Linux, VSCode, Neovim, Docker, Git, SQLite,  $\text{\LaTeX}$ .