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 SAELens 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/claudette-pydantic

- Adds Pydantic structured outputs through tool use for the Claudette library – Example.

NLP Image Retrieval with CLIP & Faiss September 2022 – June 2023
https://tom-pollak.github.io/clip-index

- University dissertation project – graded 80%. Built and evaluated NLP image search systems with ImageNet.

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, LaTeX.