

Mathis Weil

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SUMMARY

Data Science & Machine Learning postgraduate (UCL) with First-Class BSc in Computer Science (QMUL). Experience building AI-driven search systems, scalable data pipelines, and automated data collection using Python, SQL, and ML frameworks (PyTorch, scikit-learn). Strong communicator and educator (UCL/QMUL teaching roles). Eager to apply modelling and analytics to commercial problems across pricing, promotions, marketing, ranging, availability, and new store decisions.

EDUCATION

University College London (UCL)

London, UK

MSc Data Science & Machine Learning

Sep. 2025 – Present

- Modules: Bayesian Deep Learning, Digital Finance, Statistical NLP, Information Retrieval & Data Mining, Multi-Agent AI

Queen Mary University of London (QMUL)

London, UK

BSc Computer Science — First Class Honours (83%)

Sep. 2022 – Jul. 2025

- Dissertation: AI semantic search engine (Sentence-BERT, PostgreSQL + pgvector, FastAPI) achieving Recall@20 = 0.899 and MRR = 0.843

EXPERIENCE

Postgraduate Teaching Assistant

Sep. 2025 – Present

University College London

London, UK

- Lead practicals and assess coursework across Introductory Programming, Computer Architecture & Operating Systems, and Software Engineering
- Provide structured feedback and guidance to 150+ MSc students, strengthening communication of complex technical concepts to non-experts

Computer Science Lab Demonstrator

Sep. 2024 – May 2025

Queen Mary University of London

London, UK

- Supported labs for 400+ students; designed coursework integrating Information Retrieval and ML in databases to emphasise data-driven decision-making
- Awarded Demonstrator of the Year for student support and impact on learning outcomes

Software Engineer

Jul. 2024 – Aug. 2024

Groupe Prunay

Paris, France

- Built software tools to streamline insurance workflows; authored technical documentation to improve maintainability and onboarding
- Developed a Next.js + Tailwind showcase site to communicate product capabilities to business stakeholders

Web Scraper — Carbon Credits

Sep. 2024

Freelance

Remote

- Implemented a Python Selenium pipeline to collect 5,000+ structured startup data points for market analysis and prospecting
- Introduced multithreading to accelerate collection by ~40%, improving time-to-insight for commercial research

Software Engineer

May 2023 – Jul. 2023

Garage-Hero

Dubai, UAE

- Developed React components and automated scrapers; contributed QA and debugging to increase reliability of user-facing features

PROJECTS

AI Assistant for IBM SkillsBuild | *Sentence-BERT, FastAPI, PostgreSQL + pgvector, Python* Sep. 2024 – May 2025

- Built a semantic search engine that outperformed BM25 baselines, enabling fast retrieval of relevant learning content
- Production-ready API for downstream RAG applications, demonstrating end-to-end data ingestion, feature extraction, vector indexing, and evaluation
- Tech transferable to retail search, merchandising discovery, and marketing content relevance

BSc Dissertation: Semantic Search Engine | *Sentence-BERT, pgvector, FastAPI* 2025

- End-to-end IR system with measurable gains (Recall@20 = 0.899, MRR = 0.843); emphasised rigorous evaluation and reproducible pipelines

TECHNICAL SKILLS

Languages: Python, SQL (PostgreSQL, pgvector), JavaScript/TypeScript, Java

ML & Data: PyTorch, scikit-learn, Pandas, NumPy, Information Retrieval, NLP, Semantic Search, RAG, Data Mining, Deep Learning

Frameworks & Tools: FastAPI, React, Next.js, Tailwind, Selenium, Git

Communication: Teaching & mentoring at UCL/QMUL; clear technical writing and documentation

CERTIFICATIONS & LANGUAGES

Certifications: Mathematics for ML (Imperial College London); TryHackMe (cyber); First Aid (PSC1); Cambridge English Advanced (C1)

Languages: French (Native), English (Fluent), German (Intermediate)