Meghdad Kurmanji

Cambridge, UK – Global Talent Visa Holder
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Professional Summary

Applied scientist and ML engineer with 8+ years of experience researching, building, and deploying scalable AI systems, from foundational models to production features. Proven expertise in the end-to-end lifecycle of deep learning models, including the architecture, training, and fine-tuning of transformers and LLMs for enterprise-grade applications. Drove innovation through collaborations with cross-functional teams at Google DeepMind and Huawei, delivering SOTA solutions in areas like Trustworthy AI and multimodal learning. Published in premier venues (NeurIPS, SIGMOD, ICLR) and now seeking to apply my expertise to real-world problems.

Experience

University of Cambridge **Cambridge, UK**
Postdoctoral Research Associate *2024–Present*

- Co-PI and led a **€530k-funded** research project on robust, **scalable decentralized LLM pre-training**, developing techniques directly applicable to enhancing data **privacy and security** in production models.
- Pioneered novel Machine Unlearning techniques for the efficient and secure removal of user data, a critical component of **Trustworthy AI that addresses regulatory compliance** (e.g., GDPR's Right to be Forgotten) and model safety.
- Designed and evaluated decentralized LLM pipelines for **large-scale environments using PyTorch, Transformers and MosaicML.**
- Contributed to scalable LLM evaluation on down-stream **fine-tuning applications**.
- Publishing in top venues including NeurIPS and ICLR.

University of Warwick **Coventry, UK**
Graduate Research Assistant *2020–2024*

- Pioneered research in machine unlearning, developing SOTA algorithms that **address regulatory requirements** for data deletion and privacy.
- Designed a **continual-learning** framework that outperformed SOTA $> 10\times$ in throughput.
- Developed an unlearning algorithm beating SOTA by 10% across benchmarks.
- Secured **£150k Huawei Research and Innovation** grant for machine-learning-based Databases indexing.
- Initiated and managed several research collaboration with stakeholders at **Google DeepMind**, aligning academic research goals with industry-defined problems including the NeurIPS 2023 Machine Unlearning Challenge.
- (Co-)authored **7 ML and Systems papers** in NeurIPS, SIGMOD, and CIDR.

Iran Telecommunication Research Center (ITRC) **Tehran, Iran**
Data Engineer *2019–2020*

- Built an end-to-end data pipeline (crawl $\rightarrow$ Hadoop $\rightarrow$ OLAP) using Big Data technologies reducing data onboarding time $5\times$.
- Implemented scalable ETL workflows on a Hadoop-based OLAP system, enabling a 5x query speed-up.
- Integrated ElasticSearch with PowerBI, cutting weekly report delays by 60%.

Refah Retail Chain Stores Co. **Tehran, Iran**
Machine Learning Engineer *2017–2019*

- Owned the end-to-end development and deployment of a business-critical computer vision system for real-time customer footfall analysis; achieved **81% accuracy** in production across 20 retail locations.
- Created an in-store heat-map generator to identify crowded zones, informing staffing decisions.
- Engineered and deployed a **multi-modal product recommendation** engine using a hybrid LSTM-CNN architecture, resulting in a 15% increase in active customer engagement.
- Delivered customer behaviour analysis with **regression on time-series data**, achieving 60% return-prediction accuracy.

Sensifai **Belgium, remote**
Deep Learning Engineer *2016–2017*

- Improved a production **audio classification model's accuracy by 9%** by designing and implementing a multi-modal transfer learning approach, directly enhancing acoustic scene-detection capabilities..
- Built an 88%-accurate music-mood classifier via spectrogram feature engineering and convolutional neural networks.
- Optimised distributed video-crawling pipeline, achieving 1.8× throughput.

Education

University of Warwick **Coventry, UK**
Ph.D. in Computer Science *2020–2024*
Thesis: *Adaptability of ML Based Database Systems* (**SIGMOD Honorable Mention Award**)

- Conducted the first study of data deletion (unlearning) algorithms in **learned database systems.** (**SIGMOD '24**).
- Developed **SCRUB**, a SOTA unlearning algorithm for large-scale deep models (**NeurIPS '23**).
- Created **DDUp**, a framework to enable efficient **data insertion in learned database systems** (**SIGMOD '23**).
- Collaborated with **Google DeepMind** to launch the first NeurIPS ML data deletion (unlearning) challenge (NeurIPS '23).

Tarbiat Modares University **Tehran, Iran**
M.Sc. in Computer Science, GPA: 3.67/4 *2014–2017*
Dissertation: Hand Gesture Recognition Using 2D and 3D Convolutional Neural Networks from Video

Isfahan University of Technology **Isfahan, Iran**
B.Sc. in Computer Engineering, GPA: 3.65/4 *2010–2014*

Skills (Hands-On Experience)

Programming & Engineering: Python, C++, Git, Docker, CI/CD, REST APIs, Linux.
AI/ML: Deep Learning, LLMs (Pre-training, Fine-tuning, Distillation), Multi-Modal Models, Computer Vision, Audio Processing, Trustworthy AI (Unlearning).
Distributed ML: Large-Scale Distributed Training, Ray, PyTorch Distributed (DDP/FSDP), MosaicML.
Frameworks & Libraries: PyTorch, TensorFlow, Transformers, Hugging Face, LangChain, Scikit-learn.
MLOps & Cloud: Azure Machine Learning (AML), AWS SageMaker, Docker, Slurm, Weights & Biases (W&B).
Databases & Data Platforms: SQL, NoSQL, OLAP, Hadoop, Learned Indices.

Honors & Awards

2025: SIGMOD Jim Gray Doctoral Dissertation Honorable Mention.
2024-2025: Secured €530k SPRIN-D grant as co-lead of *CambridgeFlower*.
2023: Organizer, NeurIPS Machine Unlearning Workshop.
2021: Best Presentation Award, WPCCS, University of Warwick.
2020–24: Computer Science Graduate Scholarship (£25k p.a.), University of Warwick.
2020–24: Research Grant (£15k p.a.), Huawei Dublin.

Selected Publications

ICLR 2025: DEPT: Decoupled Embeddings for Pre-training Language Models (top 1%).
Neurips 2025: **Bridge the Gaps between Machine Unlearning and AI Regulation.**
NeurIPS 2024: What Makes Unlearning Hard and What to Do About It.
SIGMOD 2024: Machine Unlearning in Learned Database Systems.
NeurIPS 2023: Towards Unbounded Machine Unlearning.
SIGMOD 2023: Detect, Distill and Update: Learned DB Systems Facing OOD Data.
Full list: `https://scholar.google.com/citations?user=7t9HbecAAAAJ`

References

Available upon request.