

Al-Hussein Abutaleb

London | alhussein.abutaleb@gmail.com | British Citizen | +44 7976 417014 | alhussein.dev | GitHub

Summary

Award-winning educator and AI practitioner with **1,600+ class hours** teaching AI Engineering, Machine Learning, and Deep Learning (part of **2,600+ total university and bootcamp teaching hours**) across the UK and Gulf. Bilingual (Arabic/English), first-author **AAMAS** publication, and a deep learning research background. Specialises in designing and delivering technical curricula (from ML fundamentals through LangChain, RAG, and AI agents) with a strong record of student outcomes and stakeholder engagement.

Skills

Languages: English (Native/Fluent), Arabic (Native/Fluent)

Teaching & Curriculum: Curriculum design, cohort-based bootcamp delivery, live and remote instruction, student assessment and mentoring, teaching-assistant management

Programming: Python, JavaScript/React, SQL

ML/DL Frameworks: PyTorch, TensorFlow/Keras, Scikit-learn, XGBoost, Pandas

AI/LLM Tools: LangChain, LangSmith, OpenAI API, Hugging Face Transformers, Pinecone, ChromaDB

Techniques: Retrieval-Augmented Generation (RAG), AI Agents, Fine-tuning (LoRA/QLoRA/PEFT), Reranking, Advanced Chunking, Semantic Search, Model Evaluation, Knowledge Distillation

MLOps/Tools: Docker, Git, GitHub Actions, MLflow, Weights & Biases, Jupyter, VSCode

Experience

Freelance AI Engineering Instructor, IronHack Feb 2025 – Present

- Delivered AI Engineering bootcamps on a freelance, cohort-based basis across multiple 2025 and 2026 intakes, in-person and remote; **1,200+ class hours** of AI Engineering instruction
- Designed and enhanced curriculum covering core Machine Learning, Computer Vision, NLP, LangChain, AI Agents, and Retrieval-Augmented Generation (RAG)
- **Lead Instructor, Saudi Digital Academy (SDA)** (*Feb 2025 – May 2025, Riyadh – in person*): mentored 23 students through an intensive full-stack AI curriculum delivered bilingually in Arabic and English; three students were invited by Saudi Arabia's Ministry of Communications and Information Technology to present their projects
- **Lead Instructor, AI Engineering Bootcamp** (*Feb 2026 – Apr 2026, Remote – European market*): taught core Machine Learning, Computer Vision, NLP, LangChain, AI Agents, and RAG
- **Part-time Instructor, AI Bootcamp** (*Mar 2026 – Present, Remote – European market*): delivering part-time teaching and student support alongside concurrent cohorts
- Supported learners who later secured roles at organisations including Oracle, Lucidya, and government institutions; managed a team of two teaching assistants and adapted delivery across cohorts

AI Teaching Fellow, People-Centred AI Institute (PAI), University of Surrey – Sept 2024 – Feb 2025
Guildford, UK

- Taught and supervised **400+ class hours** in Machine Learning and Deep Learning across the online and in-person MSc AI programme at the People-Centred AI Institute, University of Surrey
- Led teaching delivery and academic support for the *Fundamentals of Machine Learning* module, including student supervision, assessment support, and moderation
- Designed and delivered a week-long AI bootcamp for incoming PhD students at the Centre for Doctoral Training, introducing core ML concepts, modern AI methods, and research-oriented implementation practices
- Communicated ML concepts, experimental design, and model evaluation to students from varied technical backgrounds

Doctoral AI Researcher, People-Centred AI Institute (PAI), University of Surrey Oct 2022 – Sept 2024
– Guildford, UK

- Built knowledge distillation pipelines to train compact student networks as efficient feature extractors; compressed image retrieval embeddings from 2048 to 8 dimensions with only a 1.39% mAP drop, a 256× memory reduction

- Co-authored research (Journalism in AI group) on public perception of ChatGPT-like tools using large-scale Twitter/X data; revised and resubmitted

Machine Learning Intern, Entropy.AI – Guildford, UK / Riyadh, Saudi Arabia Sept 2023 – April 2024

- Built an ML pipeline (weighted ensemble of Linear Regression, Random Forest, and XGBoost) to predict annual returns on the Saudi stock exchange (Tadawul) from fundamental data
- Engineered a synthetic-data method expanding four quarterly data points into ~10 years of simulated data to overcome sparse financial history

Systems Biology Researcher, University of Sheffield – Sheffield, UK May 2011 – June 2020

- Delivered **1,000+ hours** of undergraduate teaching and laboratory demonstration as a Graduate Teaching Assistant (recognised with the departmental Best GTA Award), alongside systems biology research
- Built and validated a 2,300-reaction genome-scale metabolic model of recombinant CHO cell metabolism (SBML, Flux Balance Analysis) from wet lab HPLC data, benchmarked against published models and open databases
- Identified significant discrepancies in widely-used published metabolic models, producing guidelines toward standardising flux-based metabolic modelling

Education

University of Aberdeen, MSc in Artificial Intelligence with *Distinction* Sept 2020 – Oct 2021

- **Chameleon**: an AI-driven conversational agent for clinical history-taking training, **built in 2021, before the ChatGPT era** (React.js, Django, Docker, Dialogflow/GCP), published at **AAMAS 2022**; developed with Aberdeen Medical School and evaluated with 10+ physicians and 50+ UK medical students, with 74% saying they would use it again, demonstrating end-to-end delivery of an AI system across user research, stakeholder collaboration, deployment, and impact evaluation
- **Nutlify**: a rule-based Natural Language Generation (NLG) MVP generating dietary insights from raw dietary data using the Arria NLG Platform; pioneered as lead designer in an unserved market

University of Sheffield, MSc in Cognitive and Computational Neuroscience Sept 2008 – Oct 2009

- Developed a computational basal ganglia model using a modified Izhikevich spiking neuron model, simulating 2M+ neurons with ODE-based dopamine receptor dynamics and receptor-specific affinity differences

Jordan University of Science and Technology, BSc in Biomedical Engineering Sept 1999 – Dec 2004

Publications

Chameleon: A Framework for Developing Conversational Agents for Medical Training Purposes. 21st International Conference on Autonomous Agents and Multiagent Systems (AAMAS), 2022.

Al-Hussein Abutaleb (first author), Bruno Yun

The Impact of ChatGPT on Employment: Topic Modeling and Sentiment Analysis. Computers in Human Behavior Reports, 2026 (revised and resubmitted).

Awards

- Best Graduate Teaching Assistant (GTA) Award, Department of Chemical and Biological Engineering, University of Sheffield (2013/2014)
- Best Presentation Award, Annual Research Conference, Department of Chemical and Biological Engineering, University of Sheffield (2015)