

Alexandros Zenonos, Ph.D.

alezenonos@gmail.com , +44 7503 374949 (UK)

<https://www.linkedin.com/in/alezenonos>

River Heights, 90 High Street, E15 2FA, London, UK

PERSONAL PROFILE

Multidisciplinary AI specialist with 10+ years of experience designing, building and deploying machine-learning and data-driven solutions in industry. Track record of leading multimillion-pound projects for FTSE-100, Fortune-500 and the UK public sector; translating advanced research into practical systems; and mentoring high-performing data-science teams. Strong applied background across predictive machine learning, analytics, document-to-data pipelines, NLP and GenAI/RAG, with particular experience in turning messy, fragmented workflows and data sources into usable tools that support better decisions in regulated and enterprise environments. UCL (BSc), Imperial (MSc) and Southampton (PhD) trained.

WORK EXPERIENCE

Personalised Healthcare Digital Solutions Lead – Roche Products Ltd (April 2022 – Present)

- Co-leading a multimillion-pound 5-year partnership with [an NHS Trust](#) to develop AI and ML technologies for improving healthcare data utilisation; defining AI product roadmap and delivering solutions spanning NLP ([Genomic Pipeline](#), [Histopathology Reports](#), [Cardiac MRI Reports](#)), Wearables, [Clinical decision support tools](#), [Digital transformation](#), Interoperability, as well as contributing to the creation of the Clinical Insights Unit ([CIU](#))
- Steering 7 concurrent work-streams and a 25-plus cross-functional team; the initiative [featured](#) in Roche global channels and was endorsed by the UK General Manager and produced many publications to date ([academic](#) and [corporate](#) published)
- Architected an end-to-end NLP pipeline that extracts genomic variants from unstructured PDFs, maps to FHIR and feeds a clinician-facing dashboard, cutting manual review time by 80%
- Acted as Product Owner and hands-on tech lead for the development and validation of predictive machine learning models in Python using Pandas, Dask and Scikit-Learn for early identification of paediatric patients at risk of progression to kidney failure before adulthood (transition to adult care) in a Trusted Research Environment (TRE) setting
- Co-led the clinical deployment pathway of the CKD tool from the ground up; latest retrospective validation on a cohort of 692 children (2001–2025) showed XGBoost as the best-performing model with F1-score 0.72 and ROC AUC 0.80, with SHAP used for clinician interpretability; currently moving into clinician “shadow mode” testing, with governance as the main pacing factor
- Led interoperability and open-source strategy for [PICTURE](#) (Paediatric Informatics Consultation Using Real-world Evidence), a clinical intelligence platform that helps clinicians answer cohort-based questions such as how a patient is similar to or different from prior hospital cases, while aggregating multimodal signals including genomics; code is open-source, while hospital data remains internal
- Leading the Roche–GOSH FHIR interoperability paper write-up and contributor coordination, and helping shape publication and open-source strategy for reusable clinical tooling
- Led the NLP analysis of free-text survey feedback (>90 responses) for generative AI educational avatar videos for an NHS Trust, revealing 4 key sentiment themes with 80 % positive/neutral sentiment- findings accepted by [Journal of Medical Internet Research](#) (in press, 2025)
- Architected and shipped an enterprise Retrieval Augmented Generation (RAG) LLM chatbot (Python, OpenAI, AWS Bedrock, Langchain, ChromaDB/Azure AI Search, RAGChecker) requested by key internal

stakeholders for internal compliance-related queries, deployed on private cloud (aimed at 1500 users), following best practices including continuous integration and deployment (CI/CD). The compliance chatbot outperformed internal and off-the-shelf alternatives in stakeholder testing on answer quality, conciseness and source attribution, leading to demand for a broader pilot and requests to scale to other countries

- Managed delivery of a Cancer Wait Times automation and Tableau dashboard, replacing manual data collection and processing with a more reliable workflow for monitoring 62-day treatment targets across Cancer Alliances and NHS Trusts, enabling easier trend analysis and stakeholder discussions around capacity and care variation
- Led development of a Streamlit-based analytics tool for MS prescribing data, reconciling multiple CSV and Excel sources with overlapping information at different granularities; designed joining, fuzzy-matching and business-rule logic to standardise values into like-for-like comparisons, improve data cross-checking and surface patterns for analysis and visualisation
- Evangelised Responsible AI and NHS-industry collaboration via eight high-profile talks and panel sessions (including Edinburgh Biomedical AI CDT Event, Bristol Data Week, NHS TechTalk, Alan Turing Institute), boosting Roche's visibility in digital health and applied AI
- Supervised junior colleagues and designed learning paths for team members
- Workplace tutor and mentor for multiple (n>8) level 6 and level 7 Data Science apprentices (BSc and MSc equivalent), interns and Industry Placement students, achieving a 100% completion rate to date and building a talent pipeline for the organisation's data science global capability

AI PhD Honorary Academic Supervisor – University College London (UCL) (January 2024-Present)

- Supervising a PhD candidate on a research project focused on time-series classification for predicting and mitigating Acute Kidney Injury (AKI) in paediatric bypass surgeries, with the objective of enhancing postoperative health outcomes and reducing the current AKI incidence rate of ~25%.

Senior Data Scientist | Manager – KPMG UK (October 2019 – April 2022)

- Lead data science projects from the prototyping stage to operationalisation for various industries on cloud (MSFT Azure, GCP, AWS) – GCP Data Engineer Certified
- Manage senior stakeholders internally and externally (scoping project needs, including an end-to-end delivery team, budget and computation requirements, understanding and translating the needs of our healthcare clients)
- Led the development of an early [IFRS 16 chatbot](#) for internal and external stakeholders
- Co-led a team of 15 data scientists of various experience with 5 direct reports
- Developing learning paths and mentoring members of the Data Science and AI team
- Planning and scoping data science approaches for real-world problems across business verticals
- Contribute to RfP responses (i.e., attracting AI work to the business)
- Development of machine learning models in the cloud (mainly MS Azure, GCP, AWS) across the software product lifecycle stages

Data Science Consultant – Accenture (November 2018 – August 2019)

- Lead the development of an uplift modelling solution end-to-end (on AWS) for an international telecommunication client with [real-world impact](#) of reaching thousands of customers, increasing the digital channel usage by 26% and reducing the number of inbound calls about 1.5M.
- Responsible for liaising with strategic alliance partners for student scholarships for the MSc in Artificial Intelligence and Machine Learning at University College London (UCL)

Data Scientist – Capgemini (November 2017 – November 2018)

- Developed AI Proof of Concepts (PoCs) for the [healthcare division of a multinational conglomerate](#) and the [public sector](#)
- Use of state-of-the-art machine learning algorithms, techniques and tools (e.g. Pandas, Scikit-learn, Gensim, OpenCV, Pytorch, Tensorflow) to develop computer vision applications and predicting delinquent invoices for medical equipment
- Responsible for the organisation of internal events for the UK practice and was the point of contact for academic collaborations

Teaching Assistant – University of Southampton, UK (**Spring 2016**)

- Provided programming tuition to students and support during programming tutorials
- Supervised software engineering group projects

Data Scientist Researcher – Toshiba Telecommunications Research Laboratory, Toshiba Research Europe Limited (**Autumn 2015**)

- Subject: “[HealthyOffice: Mood Recognition At Work Using Wearables](#)”
 - Involved in all the stages of data analysis, including planning of user study (Data collection, Feature Selection/Extraction, Machine Learning)
 - Developed machine learning algorithms to make predictions on data collected from commercial wearable devices that can monitor heart rate, skin temperature, and movement

Software Engineer Intern – Software Systems Engineering Group of University College London (**Summer 2011**)

- Developed an Android mobile application that provides personalised travel services by means of (implicitly and explicitly) crowd-sourced data
- The [application](#) leverages techniques like ratings and tweet-style text that social media sites use, but channels these into interfaces that assist people when using London’s Tube system

Sergeant – Military Service at National Guard of Cyprus (**2007-2009**)

- Developed leadership, supervisory/management skills, confidence and self-discipline
- Realisation of the responsibility of authority especially during conditions of pressure

EDUCATION

University of Southampton – UK – PhD Artificial Intelligence (2013-2017)

- Research Topic: [Coordinating measurements for environmental monitoring in uncertain participatory sensing settings](#)
- Research Interests: Probabilistic modelling using stochastic processes (Gaussian processes), machine learning, artificial intelligence, multi-agent systems, algorithm design
- Presented research in international conferences
- Supervisors: Prof. Nicholas R. Jennings (h-index:137) and Dr. Sebastian Stein

Imperial College London – UK – MSc Advanced Computing (Merit) (2012-2013)

- Modules: Machine Learning, Machine Learning and Neural Computation, Intelligent Data and Probabilistic Inference, Computational Neurodynamics, Multi-Agent Systems, Computer Vision, Software Engineering for Industries, Knowledge Representation, Distributed Algorithms
- Summer Project: Unsupervised Learning Approaches to Intention Recognition (**Grade 78%**)

University College London – UK – BSc Computer Science (1st class honours) (2009-2012)

- Modules: Cognitive Systems and Intelligent Technologies, Computational Complexity, Discrete Mathematics, Database and Information Management Systems, Technology Management and Professional Issues
- Final Year Individual Project: Hack into smokers’ behaviour: An investigation of smoking behaviour and promotion of behaviour change (**Grade: 74%**)

- Majors: Mathematics, Physics, Computer Science, CISCO networking systems

GCE “A” level:

- Mathematics (A), Statistics (A), Computing (A)

KEY SKILLS AND COMPETENCIES

- Machine Learning & Deep Learning (scikit-learn, XGBoost, PyTorch, TensorFlow) including Timeseries and predictive analytics more generally
- Natural Language Processing, document intelligence and information extraction (including Large-Language Models, RAG and retrieval-based systems)
- AI Research – Publications available [here](#)
- MLOps / CI-CD (Docker, GitLab CI, MLflow familiarity)
- Cloud Platforms (GCP Professional Data Engineer [certified 2020], Azure ML Workspace, AWS SageMaker / AWS Bedrock)
- Tooling: Python, SQL, Pandas, Dask, PostgreSQL, VSCode, Github Co-pilot, Claude Code, Codex, Git (Gitlab, Github), Streamlit, Tableau (Basic), MATLAB
- Evaluation / GenAI tooling: LangChain, ChromaDB, RAGChecker
- Non-technical skills: Data Science Team Leadership, Project Management, Agile Framework, Stakeholder Management, Responsible AI / Governance

SELECTED PUBLICATIONS, SOFTWARE & PUBLIC PROFILE

- Guest speaker profile: [Alan Turing Institute profile](#)
- Writing and public thought leadership: [Medium](#) (@azenresearchlabs) and Towards AI (~54K views)
- [Google Scholar](#) profile: 260+ citations
- [GOSH-Roche partnership](#)
- Open-source software: [Genomics NLP pipeline](#) and [PICTURE platform](#) and [PICTURE paper \(FHI\)](#)
- [Stackoverflow](#) contributor (201k reach, 1878 reputation)
- [LinkedIn](#)
- [GitHub](#)

PERSONAL INTERESTS

- Sports (football)
- Reading and Listening (non-fiction books/audiobooks)
- Travelling (22 countries so far)

LANGUAGES

- Greek (Native language)
- English (Fluent)