

Dr Ana Rojo-Echeburúa, PhD, MSc

Data and AI Specialist

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I'm an AI and data specialist with a strong foundation in mathematics and a passion for solving real-world problems. I've worked closely with clients to tackle business challenges, led teams to develop impactful and scalable solutions, and gained experience in start-ups, including founding my own AI company. I'm committed to making technology accessible, ethical, and impactful, always striving to stay up-to-date and deliver results that are transparent and trustworthy.

EXPERIENCE

Principal Technical Learning Specialist | QA | Remote | January 2025 - now

Led the delivery and development of advanced Data, AI and Cloud training programs, making sure they aligned with industry standards and delivered real value.

Designed and refined the curriculum, working closely with product and sales teams so our offerings were innovative, relevant, and impactful.

Oversaw course development, driving improvements based on feedback and evaluations, and aligning training with emerging industry needs.

Offered expert technical insights and mentor the wider team to maintain high standards across all programs.

Stayed on top of the latest advancements in Data Science, AI and Cloud Computing

Principal AI Consultant | Third Platform | Edinburgh | November 2024 - now (Freelance)

Led the design, development, and deployment of AI solutions to solve complex business problems, created tailored AI strategies, recommended models and approaches to meet client needs, evaluated how AI could align with an organisation's goals and made sure it delivered measurable value.

Designs strategies and roadmaps to make sure our client's projects were built on high-quality, actionable data by assessing data readiness, addressing gaps, and creating secure, compliant frameworks.

Developed custom ethical and trustworthy AI solutions by fine-tuning pre-trained models to meet specific business needs, improving both efficiency and outcomes.

Oversaw AI implementation and integration, embedding solutions into key business systems and platforms.

Delivered scalable, cloud-based AI systems on platforms like AWS, Azure, and GCP, ensuring they were reliable, flexible, and designed to last.

Provided training and support to help teams understand and effectively use AI tools, maximising their impact.

Technical Writer | Datacamp | Remote | June 2024 - Now (Freelance)

Developed hands-on tutorials on trending AI topics, including Generative AI, Small and Large Language Models, AI Agents, and Retrieval-Augmented Generation applications. These can be found [here](#) by searching my name.

CTO | Simpli | Remote | July 2024 - November 2024

Led the development of an AI platform for insurance brokers, automating tasks and improving processes.

Planned and guided the technical direction, building AI solutions tailored to the insurance industry's needs.

Managed a team of engineers and handled project management, ensuring smooth communication and meeting deadlines across front-end, back-end, and AI work.

Built and launched AI agents using tools like LLMs, FastAPI, Docker, and Azure. Worked closely with clients to understand their challenges and create custom AI solutions using their internal data and systems.

Used agile methods to manage projects efficiently, delivering AI solutions quickly and improving them based on client feedback.

Data Consultant & Trainer | Manchester Digital | Remote | March 2024 & June 2024

Designed a comprehensive Level 4 Data Analytics curriculum program, including detailed content for each unit and mock assessments.

Collaborated with educational teams to ensure the curriculum met industry standards and provided practical, real-world skills.

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Technical Lead | digiLab | Remote | October 2023 - April 2024

Led a cross-disciplinary team and engaged in hands-on work in the development of a probabilistic machine learning Python package.

Interacted with clients to understand their challenges and requirements, ultimately producing products that met their expectations.

Developed an AI chatbot using Langchain, OpenAI and Pinecone.

Conducted research on AI advancements with a focus on Large Language Models.

Created educational video content on data science and AI, focusing on Large Language Models, RAG applications, and Gaussian Processes on Youtube, from start to finish, including scripting, filming and editing.

Data Mentor | Cambridge Spark | Remote | June 2022 - September 2023

Trained Level 4 and Level 7 apprentices in data science and AI, covering SQL, Python, TensorFlow, PyTorch, Keras, and NLP techniques including LLMs.

Provided technical coaching on AI concepts and algorithms for real-world projects across various sectors.

Data Coach | Multiverse | Remote | April 2021 - June 2022

Mentored apprentices in data analysis and science, focusing on Excel, SQL, Python, and Power BI.

Developed and delivered learning material in data analysis and data science.

Mathematical Researcher and Data Scientist | Edinburgh | ThinkTank Maths | July 2019 - April 2021

Developed feature engineering algorithms and applied machine learning to industry challenges in oil, gas, and aerospace.

Conducted AI research and utilised R, Python, and SQL for data analysis and modeling, including PyTorch and TensorFlow.

Mathematics and Statistics Teacher | UELT, University of Kent | Canterbury | April 2017 - May 2019

Conducted exercise classes to prepare undergraduate students for Mathematical Methods and Statistics exams.

Mathematics Teacher Assistant | SMSAS, University of Kent | Canterbury | July 2016

Provided support as an assistant teacher during the London Mathematical Society summer school, assisting undergraduate students in mathematics.

Mathematics Tutor | UELT, University of Kent | Canterbury | June 2016 - June 2019

Delivered personalised mathematics tutoring sessions to undergraduate and postgraduate students across various disciplines, including students with special needs.

Mathematics Teacher and Tutor | Enseñalia | Zaragoza | June 2015 - September 2015

Provided tailored instruction to individual and group students in mathematics, social sciences, sciences, and engineering, facilitating comprehension and skill development.

Mathematics Teacher and Tutor | Agora | Zaragoza | Spain July 2013 - June 2015

Delivered comprehensive mathematics sessions to students at the college and high school levels, using diverse teaching methodologies to accommodate different learning styles.

TECHNICAL SKILLS

Programming Languages: Python, C, C++, R, JavaScript, HTML, CSS, React

Machine Learning/AI Frameworks: TensorFlow, PyTorch, LangChain, LangGraph, PineCone, OpenAI, Llama

Cloud Computing: AWS, Microsoft Azure

Data Visualization: Tableau, Power BI

Application Development: Streamlit, FastAPI, Docker

Database Management: SQL, PGVector

Version Control: Git

Mathematical Software: Maple, LaTeX

EDUCATION

PhD in Applied Mathematics University of Kent Sep 2015 - May 2019

Thesis: "Applications for Smooth and Discrete Moving Frames"

MSc in Modelling, Mathematical Research, Statistics & Computing | University of Zaragoza | Sep 2014 - Jul 2015

Thesis: "Lie Algebroids and Its Applications in Interpolation in Differentiable Manifolds"

BSc in Mathematics | University of Zaragoza | Sep 2010 - Jul 2014

Thesis: "Dynamical Systems with Symmetries"

PERSONAL PROJECTS

These projects explore a wide range of AI and data science applications, focusing on advancing the capabilities of generative AI and machine learning. They include work on multi-agent systems using OpenAI's Swarm framework, Retrieval-Augmented Generation systems with LangChain and FastAPI, and tutorials on using models like OpenAI's GPT-4, Llama, and Alibaba's Qwen family. The projects also cover audio transcription and generation, prompt engineering, and implementing knowledge graphs to improve AI systems. There is also a focus on foundational machine learning concepts, Python programming, SQL applications, and exploratory data analysis. Other projects include work on Gaussian Processes, physics simulation models, and interactive AI assistants, showcasing a blend of theoretical innovation and practical application across diverse use cases.

LANGUAGES

Spanish, English and French.