

Lola Beatrice Braut

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Applied AI Engineer

Professional Profile

Digital Technologies student completing a Level 5 HND in December 2026, with practical experience in Python, machine learning, generative AI, RAG, and document intelligence. Currently undertaking Pfizer's "AI-Powered Document Insights and Data Extraction" Externship, working with retrieval systems, LLMs, prompt design, grounding, and AI workflows. Interested in AI engineering roles where I can apply technical problem-solving to real products and workflows, continue developing practical engineering skills, and contribute to useful AI-driven solutions.

Technical Skills

Programming and tools: Python, pandas, scikit-learn, Google Colab, GitHub, Gradio

Machine learning and AI: Generative AI, LLMs and Transformers, prompt engineering, Retrieval-Augmented Generation (RAG), LlamaIndex, Hugging Face embeddings, supervised classification, model training, comparison, and evaluation

Retrieval and document intelligence: Vector search, BM25, hybrid retrieval, reranking, Reciprocal Rank Fusion (RRF), PyMuPDF, OCR, structured data extraction, and layout-aware document processing

Data handling and analysis: Data cleaning, preprocessing, exploratory data analysis, correlation analysis, feature selection, feature importance, data visualisation, and data-quality assessment

AI workflows and professional: AI workflow design, research, technical documentation, critical evaluation, data privacy, AI governance, problem-solving, presentation skills, and stakeholder communication

Relevant Experience

AI-Powered Document Insights and Data Extraction Extern

July 2026–Present

Pfizer Advanced Externship, delivered through Extern

- Built end-to-end document intelligence workflows in Python and Google Colab to load, clean, preprocess, and extract information from structured and unstructured pharmaceutical documents.
- Extracted and structured text from multi-page PDFs using PyMuPDF, identifying issues involving tables, columns, multi-word fields, and document layout.
- Preprocessed scanned documents and evaluated Tesseract, PaddleOCR, and EasyOCR for extraction accuracy, layout handling, and output quality, identifying PaddleOCR as the strongest approach for the document tested.
- Built and evaluated a Retrieval-Augmented Generation (RAG) pipeline using LlamaIndex, Gemini, and Hugging Face embeddings for pharmaceutical document retrieval and grounded question answering.
- Experimented with fixed-size, overlapping, and semantic chunking, and evaluated vector search, BM25, hybrid retrieval, Reciprocal Rank Fusion (RRF), and reranking to improve retrieval relevance.
- Developed and refined prompts for document-based AI workflows, assessing response quality and grounding against retrieved source information.
- Built and ran an AI-powered PDF research assistant using Gemini, Phi, RAG, and Gradio to retrieve relevant information from academic and pharmaceutical documents and answer user questions.

Selected Technical Projects

Mushroom Classification Using Machine Learning

2026

HND Fundamentals of Artificial Intelligence Project

- Prepared a mushroom classification dataset of approximately 12,000 records, encoding categorical variables and standardising numerical features prior to modelling.
- Trained and compared six supervised classification models using accuracy, precision, recall, and F1-score.
- Investigated an initial 100% Random Forest result by removing 146 duplicate records and re-evaluating the model to test whether performance reflected genuine dataset structure.
- Extended the analysis to Bagging, AdaBoost, and Stacking, comparing how different ensemble approaches affected performance and model behaviour.
- Considered feature importance, concept drift, distribution-shift monitoring, and retraining strategies; the accompanying paper was recommended for further development towards joint academic publication.

Generative AI for NHS Clinical Documentation <i>HND Emerging Technologies Project</i>	2026
• Evaluated generative AI for reducing administrative workload for NHS GPs, including clinical documentation and information-retrieval workflows. • Designed a human-in-the-loop architecture incorporating clinician verification, EHR integration, access control, and audit logging. • Assessed implementation risks including hallucinations, automation errors, data privacy, and the need for clinician verification within the proposed AI workflow.	

Software Investigation and SDLC Design <i>HND Software Development Lifecycles Project</i>	2026
• Conducted a systems investigation for an independent bakery, using stakeholder interviews to analyse manual ordering, stock-control, and customer-management workflows. • Designed a conceptual integrated POS, inventory, customer-ordering, and loyalty solution using a hybrid Waterfall and Agile lifecycle. • Produced a requirements traceability matrix, process maps, state diagrams, and a feasibility assessment covering technical, operational, economic, legal, and scheduling considerations.	

Education

BTEC Level 5 Higher National Diploma in Digital Technologies <i>University Centre David Game London</i>	2024–December 2026 (expected)
• AI pathway with relevant study in artificial intelligence, business intelligence, emerging technologies, cloud fundamentals, innovation, digital transformation, and software development lifecycles. • Developed practical and analytical work involving Python, machine learning, data interpretation, AI governance, and technology-focused business problem-solving. • Student President, representing the student body and liaising with staff on matters affecting the student experience.	
Bachelor’s Degree in Slavic Languages <i>Faculty of Humanities and Social Sciences, University of Zagreb, Croatia</i>	2012
• Awarded an Erasmus scholarship to complete the second year of the degree at Comenius University in Bratislava, Slovakia.	

Employment History

Editor <i>Three Panels Press, Remote</i>	2024–Present
• Edit and proofread poetry, interviews, blog articles, and other magazine content, ensuring accuracy, clarity, and consistency while preserving each contributor’s voice. • Serve on the editorial committee, reviewing submissions and contributing to decisions about which poems are selected for publication. • Review and approve the magazine’s visual layout, working remotely with committee members to ensure that written and visual content is presented effectively.	
Personal Assistant <i>Various Private Households, London</i>	2013–Present
• Managed scheduling, appointments, correspondence, travel arrangements, research, errands, and household administration across multiple private households. • Coordinated changing priorities, communicated with families and external contacts, and maintained discretion with confidential information.	
German-to-Croatian Script Translator <i>Constantin Entertainment</i>	2011
• Translated German television scripts into Croatian for spoken delivery, preserving meaning and tone.	