

Oscar Gavin

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EDUCATION

University of St. Andrews

Master of Science in Artificial Intelligence

St. Andrews, Scotland

Sep. 2023 – August 2024

University of Sheffield

Bachelor of Science in Artificial Intelligence and Computer Science

Sheffield, England

Sep. 2020 – June 2023

EXPERIENCE

Full-Stack Application Developed for RSK

Jan. 2023 – May 2023

Sheffield, England

- Led an 8-person international development team to create a property survey analysis tool, achieving 85% mark and subsequent job offer
- Engineered a full-stack Ruby on Rails application with Bootstrap CSS analysing ROI and carbon savings for green energy solutions
- Utilised Agile methodologies with fortnightly client meetings and sprint planning to deliver commercial-grade solution

AI Implementation Consultant (Freelance)

June 2023 – Present

Lancashire, England

- Advised local businesses on practical AI solutions, assessing their needs and technical constraints
- Identified essential data requirements and suggested efficient collection methods to support AI implementations
- Built small-scale prototype solutions to demonstrate viability and potential business value
- Provided clear implementation roadmaps and recommendations based on successful proof-of-concept results

PROJECTS

Medical Imaging Landmark Localiser | *Python, PyTorch, Docker, HPC*

Dec. 2022 – May 2023

- * Developed automated landmark detection system for 2D fMRI scans utilising UNetFormer, combining U-Net backbone with transformer modules
- * Approached SOTA accuracy across multiple evaluation metrics using dataset of 10,000 medical images
- * Implemented comprehensive data augmentation pipeline to expand training dataset whilst maintaining anatomical validity

Multi-Modal Image Caption Generator | *Python, PyTorch, MAMBA, Transformers*

Jan. 2024 – August 2024

- * Conducted master's thesis research comparing Transformer and MAMBA architectures for numismatic image captioning
- * Pre-trained both vision and language models on non-test dataset for greater domain specificity
- * Developed comprehensive evaluation framework with automated metrics tracking and reproducible training protocols
- * Engineered scalable containerised solution using Docker and university's HPC system for distributed training

Hypnotherapy Business RAG Chatbot | *Python, LangChain, OpenAI, Streamlit*

Sept. 2023 – Present

- * Developed and integrated RAG chatbot functionality into proprietary full-stack website utilising React, Next.js, Tailwind CSS and Prisma ORM
- * Implemented LangChain framework for robust document processing and semantic search capabilities
- * Deployed user-friendly Streamlit interface resulting in reduced customer enquiries
- * Integrated OpenAI's API with customised retrieval mechanisms to maintain business-specific knowledge accuracy

TECHNICAL SKILLS

Languages: Java, Python, Ruby, Haskell, SQL (Postgres), JavaScript, HTML/CSS

Frameworks: PyTorch, React, Ruby on Rails, Node.js, JUnit, LangChain, , OpenAI, Claude

Developer Tools: Git, Docker, VS Code, Tableau, IntelliJ, Eclipse

Libraries: pandas, NumPy, Matplotlib, Seaborn, CometML, OpenCV