

# Daniel Cyrus

AI Researcher — Neural-Symbolic Learning, XAI & Machine Learning / Computer Vision & Medical AI

United Kingdom  
✉ daniel@dcyrus.com  
🌐 dcyrus.com  
🔄 hmlr-lab



## Profile

Innovative AI Researcher with expertise in **Neural-Symbolic Learning, Explainable AI (XAI), Computer Vision, and Medical AI**, specialising in building **trustworthy, interpretable, and data-efficient models**. Strong background in **Inductive Logic Programming (ILP)**, image/signal processing, and deep learning, with hands-on experience delivering **back-end AI systems, LLM/RAG pipelines, and research prototypes**. Focused on bridging symbolic reasoning with modern deep learning to create **transparent, reliable, and human-aligned AI systems**.

## Core Technical Skills

AI/ML	XAI, ILP, Neural-Symbolic AI, CNNs, Transformers, RAG, Few-shot Learning
Frameworks	PyTorch, TensorFlow, Scikit-Learn, OpenCV
Programming	Python, C++, Prolog
Systems	AWS, HPC, SLURM, Docker, Git, REST APIs
Domains	Medical AI (Stroke, ECG), Image Processing, Time-Series Analysis, LLM Integration

## Research & Professional Experience

- 2025–Present **Research Assistant**, *University of Birmingham*, UK
- Built and evaluated **AI models for stroke patient analysis**, integrating computer vision and clinical features.
  - Engineered **Python back-end AI pipelines** for large-scale processing of imaging & tabular patient data (PyTorch).
  - Collaborated with clinicians and engineering teams to translate prototypes into usable research tools.
- 2024–2025 **Web/AI Developer**, *NCode Group*, UK
- Developed **LLM-powered web applications** with RAG pipelines, fine-tuning, and inference APIs.
  - Built scalable **AI back-end systems** (Python) for a stroke-support platform; shipped features for `asksid.uk`.
  - Implemented data ingestion, retrieval, and evaluation pipelines with production monitoring.
- 2022–2025 **Lab Demonstrator**, *University of Surrey*, UK
- Taught and supervised labs in **C++, Python, Machine Learning, Prolog, and Data Mining**.
  - Supported student research in MLDM and symbolic AI coursework; mentored projects.
- 2021–2022 **Research Assistant**, *Aberystwyth University*, UK
- Implemented an **ECG analysis AI library** for T-wave classification using statistical and ML methods.
  - Engineered data pipelines for noise filtering, segmentation and pattern extraction; contributed to `t-wave.aber.ac.uk`.
- 2020–2021 **Data Scientist**, *Aberystwyth University*, UK
- Conducted data preprocessing, feature extraction, and ML hypothesis testing on medical datasets.
- 2021–2022 **Graduate Teaching Assistant**, *Aberystwyth University*, UK
- Teaching assistant and demonstrator for programming and ML coursework.

## Education

- 2022–2025 **PhD, Computer Science**, *University of Surrey*, UK  
EPSRC-funded. Focus: Neural-Symbolic AI, XAI, Pattern Discovery, Numerical Reasoning.
- 2020–2022 **MPhil, Computer Science**, *Aberystwyth University*, UK  
Thesis: *Object classification and role estimation in distorted videos*.

## Publications

Full list on Google Scholar (ID: jMI7mIYAAAAJ). **Best Paper Award** at IJCLR 2024.

## Awards

- 2024 **Best Paper Prize** — IJCLR.
- 2024 **Nominated Best Postgraduate Researcher**.
- 2020 **IEEE International Webinar Speaker**.
- 2009–2012 **National Robocup Awards**: First Place (Soccer, Firefighter) and Referee roles (Humanoid, Line Follower, Flying Robot).

## Projects

- NumLog Neural-Symbolic ILP system for numerical reasoning with symbolic rules; enables explainable model induction and hypothesis refinement.
- ECG AI Toolkit Automated ECG analysis pipeline with T-wave classification; signal processing, feature extraction and ML.
- Medical CV Retinal layer distance measurement system for statistical modelling across layers; supports medical imaging research.

## Additional

- Teaching ML, CV, Python, Prolog, C/C++.
- Interests Robotics, Assistive AI, Hybrid Reasoning, Medical Imaging.