

# Fergal Riordan

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## PROFILE

Software Engineer with a First-Class Honours MEng in Electronic & Computer Engineering from Trinity College Dublin. Experience spans agentic AI development for a PRM platform, RLHF data annotation for LLMs, and generative AI research in GAN-based architectures. Proficient in Python and PyTorch, with expertise in developing practical AI systems and a focus on responsible, human-centred design.

## TECHNICAL SKILLS

*Key Competencies*  
*Programming Languages*  
*Frameworks & Libraries*  
*Tools & Platforms*

**Agentic AI, Generative AI, Model Fine-Tuning, Prompt Engineering**  
**Python, C, SQL**  
**LangChain, LangGraph, PyTorch, Pandas, NumPy**  
**Azure, Azure AI Services, Cosmos DB, Docker, Ollama, Git**

## PROFESSIONAL EXPERIENCE

- May 2025 — Present    **Software Engineer – AI Team, Channelscaler**    Galway, Ireland (Hybrid)  
*Azure, Python, Cosmos DB, Azure OpenAI API, Azure Document Intelligence*
- Co-developed the company's first AI agent, combining Cosmos DB NoSQL query-based information retrieval with autonomous actions such as sending client emails and updating database records.
  - Contributed to an automation feature for invoice auditing using Azure Document Intelligence, extending system functionality and improving model accuracy through fine-tuning.
- Sep 2023 — Apr 2025    **AI Data Annotator – Software Development, Data Annotation Tech**    Remote  
*Python, Prompt Engineering, RLHF*
- Trained LLM-based chatbots for advanced programming and data science tasks through RLHF and A/B testing, applying analytical techniques and prompt engineering skills.
  - Qualified for a domain expert team through consistent success in performance assessments, focusing on advanced CS topics including the evaluation of AI coding assistants integrated into modern IDEs.

## RELEVANT PROJECTS

- Sep 2023 — Apr 2024    **Master's Thesis: Enhancing CycleGAN for Day-to-Night Image Translation**  
[View Project](#)  
*Python, PyTorch, GANs, Transfer Learning, Computer Vision, Deep Learning*
- Improved CycleGAN performance using transfer learning, a content-style disentangling scheme, and a novel timestamp conditioning architecture.
  - Achieved an improvement of 20% on the Kernel Inception Distance metric over the baseline model.
  - Earned a high First-Class Honours grade of 82% for the research.
- Feb 2025 — Mar 2025    **Personal Project: Automated Web Development with the DeepSeek API**  
[View Project](#)  
*Python, TypeScript, Flask, React, Open-Source AI Models, JSON Parsing, API Integration*
- Built a tool to generate full-stack web apps from natural language prompts using the DeepSeek API.
  - Implemented a Flask backend and React frontend for automated code generation and file download.

## EDUCATION

- Sep 2019 — May 2024    **Integrated MEng and BEng, Electronic & Computer Engineering, Trinity College Dublin**    Dublin, Ireland
- Master's Result: 1.1 (80%)
  - Bachelor's Result: 1.1 (72%)
  - Erasmus semester at The University of Iceland, Reykjavík
- Sep 2013 — Jun 2019    **Leaving Certificate, Christian Brothers College**    Cork, Ireland
- 625 points (7 H1 grades, 1 H2)
  - [Ranked in the top 70 students nationally](#)

EXTRA-CURRICULAR ACTIVITIES

|                     |   |                 |
|---------------------|---|-----------------|
| Sep 2021 — May 2022 | <b>Control Team, Formula Trinity</b>  | Dublin, Ireland |
|                     | <ul style="list-style-type: none"><li>• Participated in Formula Student AI, an international engineering competition where teams design autonomous race cars to compete in tasks such as driving, obstacle avoidance, and precision navigation.</li><li>• Implemented control algorithms (PID, Model Predictive Control) for the self-driving vehicle, enhancing precision and responsiveness for FS-AI competitions.</li><li>• Gained hands-on experience in a large-scale software project, learning to solve complex problems in a collaborative team environment.</li></ul> |                 |

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|-----------|----------------|---------------------|
| LANGUAGES | <b>English</b> | Native speaker      |
|           | <b>Irish</b>   | Fluent (C1)         |
|           | <b>French</b>  | Conversational (B1) |
|           | <b>Spanish</b> | Basic (A1)          |
|           | <b>German</b>  | Basic (A1)          |

|             |   |
|-------------|---|
| SOFT SKILLS | • <i>Strong Work Ethic:</i> Built through background on a family farm, reflected in academic excellence.        |
|             | • <i>Communication Skills:</i> Developed through collaborative engineering projects and hospitality roles.      |
|             | • <i>Innovative &amp; Ambitious:</i> Demonstrated in high-impact Master’s thesis and ongoing personal projects. |
|             | • <i>Cultural Adaptability:</i> Strengthened by Erasmus semester, solo travel, and a passion for languages.     |

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|---------|---|
| HOBBIES | • <i>Soccer:</i> Played 11-a-side soccer throughout teenage years and continue to play 5-a-side regularly.  |
|         | • <i>Water Sports:</i> Advanced SSI certification in scuba diving; enjoy surfing and sailing during summer. |
|         | • <i>Guitar:</i> 15+ years of experience with acoustic and electric guitar, including live performance.     |