Fionn Mowlds

Software Engineering Student · Full-Stack Developer

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PROFILE

First-year Immersive Software Engineering student at the University of Limerick who builds and ships real software. I founded StudyRight Ireland, a study platform used in schools across Cork, and I'm building RowVision, a computer-vision app that analyses rowing technique from phone footage. I also work part-time in IT support for a maritime registry office. As a former Ireland junior rower on the 2025 Junior Home International team, I'm used to balancing 18 hours of training a week with full-time study.

EDUCATION

University of Limerick 2026 – 2030 (expected)
Integrated BSc/MSc in Immersive Software Engineering

Presentation Brothers College, Cork 2020 – 2026
Leaving Certificate

- H1 (98%) in Leaving Certificate Computer Science.
- Subjects: Computer Science, Higher Level Mathematics, Physics, Physical Education, English, Irish, Latin.
- Elected School Prefect in 6th Year: represented the student body and helped run school events.

PROJECTS

RowVision: Biomechanical Rowing Analysis 2026 – Present
Founder & Developer · product in development for college and junior rowers

- Building an app that analyses ordinary phone footage shot from a coaching launch and scores each rower's stroke against technique targets drawn from published biomechanics research.
- Wrote the Python analysis engine: pose estimation (RTMPose via ONNX Runtime) and OpenCV to track the chosen rower, split the stroke into catch, drive, finish and recovery, and measure joint angles and timing.
- Each result carries an accuracy rating, and the engine marks a measure as "not scored" rather than give a number it can't defend. Every score links back to the frames and studies behind it.
- Full-stack web app with sign-in, resumable video upload, a queued background worker, a frame-by-frame viewer and a 3D pose model, backed by a Postgres schema with row-level security.
- Covered by about 380 automated tests (pytest, Vitest, Playwright, pgTAP) running in GitHub Actions CI.

Stack: Python, NumPy, OpenCV, ONNX Runtime · TypeScript, Next.js, React, Three.js · Supabase (Postgres, Auth, Storage) · Docker

StudyRight Ireland Jan 2025 – Present
Founder & Developer · studyrightireland.com

- Built and run a full-stack study platform for Leaving Certificate students, used in schools across Cork including Presentation Brothers College, Christian Brothers College, Bruce College, Mount Mercy College and St Angela's College.
- Added an AI essay-marking tool for Leaving Cert English (a TypeScript Supabase Edge Function calling the OpenAI and Claude APIs) and a Python pipeline that extracts past exam questions from PDFs and tags them by topic.

Stack: HTML, CSS, JavaScript · PostgreSQL on Supabase · Vercel · Cloudflare Turnstile · Purelymail

V-Fetch: Linux Hardware Inspector

2026

Team project · CS4421 Computer Organisation, University of Limerick · GitHub

- Java command-line tool that reads CPU, cache, memory, PCI and USB details directly from Linux `/proc` and `/sys`, resolving device names from the PCI and USB ID databases.
- Measures the cache hierarchy from inside the JVM with stride and working-set tests that detect the cache line size and cache boundaries, then compares the results with what the OS reports.
- Benchmarks multithreaded matrix multiplication against Amdahl's law. Output comes as a full report, an interactive menu or an exported HTML page.

Stack: Java 17 · Linux /proc and /sys · multithreading

EXPERIENCE

IT Support Officer (Part-time)

Oct 2025 – Present

CJM Maritime Consultancy Ltd, Cork

- Maintain IT systems, hardware and software for the sole Irish representative of International Registries Inc. (Marshall Islands Registry).
- Resolve network, hardware and software issues end to end, keeping daily operations running smoothly.
- Handle user onboarding, access management and security controls for sensitive registry applications and data.

Volunteer Web Developer

Aug 2026 – Present

Kidscope · NICHE Health Project (Cork) CLG · HSE South West

- Build and structure web content for a paediatric community child health service, making clinical and family resources easier to find for parents who struggle with complex websites.
- Integrated social prescribing referral forms, paediatric sleep guides and clinical references for health professionals.
- Gather requirements from clinical staff and health directors and turn them into a clear content structure.

Crew Assistant (Seasonal)

Jun 2022 – Aug 2026

Cork Harbour Cruises

- Ran bar service on my own on event cruises of up to 75 guests.
- Worked as assistant tour guide and onboard salesperson, supporting the lead guide.
- Assisted with docking and routine vessel maintenance, including engine oil changes.

SPORT & LEADERSHIP

- **Ireland Junior Home International Rowing Team (2025)** — selected to row for Ireland at the Home International Regatta.
- **1st place, B Final, Championship Pairs — Metropolitan Regatta, London (2025)** — won as an U17 pair against senior university crews.
- **Peer mentor** — coached classmates on Leaving Cert Computer Science projects and shared English and Physics notes through a self-hosted site.

SKILLS

Languages	Python, TypeScript, JavaScript, Java, SQL, HTML/CSS, Lua, Bash
Frameworks	Next.js, React, Three.js, OpenCV, NumPy
Backend & Cloud	PostgreSQL, Supabase (Auth, Storage, Edge Functions), REST APIs, Docker, Vercel
Testing & CI	pytest, Vitest, Playwright, GitHub Actions
AI	OpenAI API, Claude API, Claude Code
Tools	Git & GitHub, Linux (Arch), Neovim, Hyprland/Wayland
Spoken	English (native), Irish (intermediate), Latin (intermediate)