Liam Power liambotongpower@gmail.com liampower.ie

PROFESSIONAL SUMMARY

Ambitious Computer Science student (First Class Honours) with a strong foundation in C++, Python, algorithms, and object-oriented design. Proven experience in designing and developing high-performance systems, highlighted by building a C++ trading algorithm that achieved an 18% higher ROI than baseline strategies. Collaborated at IBM to deliver a cutting-edge AI application, optimizing quality by 45%. Eager to apply advanced problem-solving skills to solve live technical challenges and contribute to the development of sophisticated trading technologies in a fast-paced financial environment. Visit liampower.ie for more.

EDUCATION

BA (Hons) Major in Computer Science and Minor in Business **April 2027**
Trinity College Dublin, Co. Dublin
Current Grade: I. I, First Class Honours (4.0 GPA)

EXPERIENCE

Software Engineer, IBM **January 2025 - May 2025**

- Architected AI-powered content generation pipeline with RAG, web search integration, and multi-LLM support via LiteLLM, increasing output quality by 45% while reducing costs by 40% through intelligent fallback systems.
- Developed authentication and user history system with Firebase integration and secure API routes, enabling session recall and content re-customization capabilities, resulting in 84% user retention rate.
- Built full-stack React/Flask application with login/signup, article preview, podcast player, and dark/light mode, implementing comprehensive test coverage that reduced production bugs by 60%.
- Established CI/CD pipeline with test-gated merges and AWS deployment, executed 4 Agile sprints using Kanban methodology, adapting deliverables based on IBM stakeholder feedback.

STEM Educator, Trinity Walton Club **June 2024 - Present**

- Facilitate hands-on STEM learning for post-primary students at TCD collaborating with postgraduate team to deliver interactive sessions, teaching 200+ students annually with 4.8/5 average satisfaction rating (based on classroom surveys).
- Design and deliver interactive investigations and team challenges that cultivate critical thinking and higher-order reasoning in dynamic, non-formal learning environments, with 92% of students reporting increased interest in STEM subjects.
- Contribute to club's impact of delivering more than 7,000 STEM engagements in its first decade, with approximately 145 of my 170 students (85%) progressing to STEM degrees.

PROJECTS

SpotPlots (TypeScript, Python) **February 2025 - Present**

- Co-founded and developed property analysis startup through Trinity's LaunchBox incubator program, finishing in the top 5 of 2025 cohort and securing a summer residency.
- Developed location intelligence platform with real-time transit data and property metrics filtering, helping users identify optimal locations; achieved 92% satisfaction rate from initial user interviews.
- Built responsive Next.js web application with MongoDB backend featuring interactive maps, personalized recommendations, and detailed scoring systems with JWT authentication.

Sentiment-Driven Predictive Market Algorithm (JavaScript, C++) **August 2025 - Present**

- Developed algorithmic trading system for cryptocurrency markets, achieving 18% higher ROI than baseline strategies while implementing fractional Kelly criterion risk management that reduced maximum drawdown by 35%.
- Implemented quantitative framework combining market probability assessment with sentiment analysis to create adjusted probability models, improving prediction accuracy by 12% over market consensus and improving sentiment classification to 86%.
- Built scalable data pipeline with Redis caching, integrating Polymarket for real-time price feeds and Reddit for sentiment extraction, processing 50,000+ social media posts daily with 99.7% uptime and sub-100ms response times.

Investigating Barriers to AI Adoption in Irish SMEs, Laidlaw Foundation **May 2025 - September 2025**

- Conducted comprehensive mixed-methods research investigating why Irish small and medium enterprises lag behind larger counterparts in AI adoption, with only 25% adoption rate compared to 40% in large enterprises.
- Executed semi-structured interviews with 13 Irish SME decision-makers across diverse sectors to examine real-world implementation challenges
- Selected to present research findings at the Laidlaw Foundation Conference in October to an audience of 300 participants.

ACHIEVEMENTS & SKILLS

- Top 3 Finish in Microsoft Security Hackathon 2025
- Awarded the Laidlaw Leadership & Research Scholarship (€10,000)
- Co-founded TCD Think Tank, Ireland's first student-led think tank
- Awarded the Sandford Park Academic Scholarship (€25,000)
- TCD Teaching Assistant for CSU11011
- TCD Research Assistant for Dr. James Ng
- Computer Science and Business Student Union Representative
- S2S Student Mentor

- **Languages:** Python, JavaScript, Java, C++, SQL, R, HTML/CSS
- **Frameworks:** React, Node.js, Django, Flask, Spring Boot
- **Tools:** Git, Docker, AWS, MongoDB, PostgreSQL, Kubernetes, Jupyter
- **Testing/Quality:** Jest, Pytest, Selenium, CI/CD, Firebase, JWT