

MATTHEW HEFFERNAN

Senior Software Engineer • Computer Scientist

Blue Mountains, Australia • +61 466 954 545 • hello@mattheff.me

Personal Web: <https://mattheff.me> • [LinkedIn](#)

CORE COMPETENCIES

- **Full-Stack Development:** C# / .NET Core, Node.js and React.js; TypeScript; JavaScript; GraphQL; API design; SQL Server; PostgreSQL
- **Systems & Integration:** High-scale Microservices; Event-Driven Architecture; Solutions Design; Legacy modernisation.
- **Delivery & Leadership:** SDLC documentation; ITIL-aligned change practices; Technical mentorship; Cross-functional collaboration
- **AI / LLM Engineering:** RAG; Prompt Engineering; Synthetic Voice;

PROFESSIONAL SUMMARY

Senior Software Engineer (20+ years) bridging technical complexity and business reality. A natural at plain and simple communication often acting as a bridge between stakeholders & dev teams as well as translating unstated customer needs into the resilient, high-impact systems delivered. A strategic, business minded leader who jumps on to any challenge, technical or otherwise.

PROFESSIONAL EXPERIENCE

Australian Broadcasting Corporation ABC — Sydney

Senior Software Engineer, Innovation Lab | 2022 – Sept 2025

- Independently engineered a cross-system AI wrapper (Chrome extension) to bypass departmental silos and competing enterprise interests; this unprompted initiative provided a unified testing and experimenting harness that saved ~6 months of dev sprints and business prioritisation decisions, resulting in rapid newsroom adoption.
- Engineered RAG pipelines for video content (Gardening Australia), auto-generating metadata and powering a searchable video library.
- Championed and delivered the Video Chapters storytelling platform with embedded quizzes used nationwide by teachers in high schools.
- Trailblazed prompt engineering, LLM evaluation, and rapid prototyping using React/TypeScript, Docker, and Azure/GCP while navigating enterprise governance and accessibility requirements.
- Contributed to AI ethics and scalability discussions to ensure tools aligned with public service values.

PolymorphicIT — Sydney

Self-Employed Systems Designer and Developer | *Sept 2025 – Present*

- Designed and Engineered a Telegram bot suite and Web3 tooling using C#, including token-gated access and an automated buyback bot for token repurchases and distribution.
- Built backend systems for real-time transactions and compliance logic; created APIs and apps to aggregate and push data to project owners and end users.
- Used event driven principles and automated testing ensuring performant and reliable operation.

CauseIS — Sydney

Senior Solutions Consultant | *2020 – 2022*

- Enabled the organisation to deliver complex integrations, APIs, and microservices for not-for-profit clients using C# and the iMIS ecosystem.
- Served as a technical anchor for the team, providing the safety net that allowed developers to stretch their capabilities and take on work previously beyond their comfort zone.
- Acted as the primary API and systems integration expert across multiple client engagements and became the go to guy in the industry for complex bespoke C# work.

University of Sydney — Sydney

Information Systems Manager | 2009 – 2022

- Managed and modernised core systems across server, database, and application layers; positioned the unit as a leader within the iMIS ecosystem.
- Improved SDLC practices and implemented documentation frameworks to support maintainability and knowledge transfer.
- Performed roles spanning Server Administrator, Database Administrator, Systems Administrator, Lead Developer, and Systems Designer.
- Note: role overlapped with PolymorphicIT engagements, 2013–2020.

PolymorphicIT — Sydney

Self-Employed Systems Designer and Developer | 2013 – 2020

- Delivered business process systems, educational resources, custom software, and analytics for university and veterinary education clients.
- Built prototypes for grant applications, interactive learning tools, and big-data analysis systems.

Artis Group — Sydney

Contractor | 2008 – 2009

- Rapidly learned and integrated complex systems to deliver an operational solution for the University of Sydney.
- Scoped projects, produced technical reports, and delivered software to government clients.

Praxa Ltd — Sydney

Junior Developer → Senior Developer | 2005 – 2009

- Built an early big-data analytics tool for Optus and integrated client management systems with health systems to improve alerting and case support.
- Authored internal code management and review procedures and translated business requirements into technical solutions.

Q-Free — Sydney

Computer Scientist | 2003 – 2005

- Prototyped technologies for the world's first underground cashless toll systems, including real-time mobile communications, 3D traffic simulation, and camera/plate recognition.

Early Work

Retail and hospitality roles that developed customer service, organisation, time management, and work ethic.

SELECTED PROJECT HIGHLIGHTS

- **Newsroom AI Extension** — Lightweight Chrome extension for alt-text and content automation; rapid adoption across editorial teams.
- **RAG for Video Metadata** — Designed pipelines to extract visual entities (e.g., lavender, water features, location info) and generate searchable knowledge graphs for video archives.
- **Token-Gated Telegram Suite** — Secure access controls and backend automation for crypto communities; near-production buyback automation.
- **Enterprise Modernisation** — Led legacy modernisation efforts at the University of Sydney, improving reliability, documentation, and maintainability.

TECHNICAL SKILLS

Languages and Frameworks: C# / .Net Core; Node.js; React.js; TypeScript; JavaScript; Python; GraphQL; PHP; Perl; C; C++; SQL

AI / LLM / Tools: Retrieval-Augmented Generation (RAG); Prompt Engineering; Synthetic Voice; LangChain; Hugging Face; OpenAI; Gemini; Claude; xAI; MCP; Pinecone; LLM evaluation frameworks

Cloud / DevOps / Infra: AWS; Azure; Google Cloud; Docker; Kubernetes; CI/CD pipelines; Terraform, GCP

Databases / Storage: MongoDB; PostgreSQL; Redis; Vector DBs (Pinecone, etc.)

Platforms / CMS / LMS: Moodle (integrations, plugins, SCORM); WordPress; Drupal; CoreMedia

Practices / Processes: Solutions design; API design; Microservices; SDLC documentation; ITIL-aligned change management; testing; monitoring; security and compliance awareness

EDUCATION

University of Western Sydney — Bachelor of Computer Science Mathematics | 2000 – 2004

IBM — Data Science Specialisation (online) | 2018 – 2019

Nepean Natural Therapies — Certificate IV Remedial Massage | 2014 – 2015

Ongoing study: Full-stack blockchain development (Solidity); Masters coursework in Education (incomplete); continuous self-learning.

PERSONAL NOTE

I bridge the gap between business goals, technical execution, and the end-user experience. I provide the strategic direction and safety net necessary for teams to tackle high-stakes challenges. My focus is on pragmatic innovation, operational resilience, and mentoring the next generation of leads.

REFERENCES

Available upon request