

Andrew MATTHEWS

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🌐 Melbourne, AU

SUMMARY

I am an experienced and versatile software engineer and technical leader specializing in fast, scalable and robust cloud-native distributed systems and the use of knowledge graphs and knowledge management.

EXPERIENCE

Principal Engineer

AGL, 2020 - Present
Melbourne, AU

I develop high-performance IoT systems for virtual power plants (VPPs) and large-scale batteries as part of AGL's ongoing decarbonisation programme.

Senior Technology Specialist

Telstra, Jan - Sep 2020
Melbourne, AU

I created Knowledge Graph and Query Engine systems to better model and monitor Telstra's internal network infrastructure.

Senior Software Engineer

SportsBet, 2019 - 2020
Melbourne, AU

I designed and implemented innovative knowledge-graph systems helping SportsBet to create smarter and more engaging user experiences.

Senior Technology Specialist

Telstra, 2018 - 2019
Melbourne, AU

I developed IoT systems for monitoring and controlling NBN routers.

Principal Developer

Liberty Financial, 2017 - 2018
Melbourne, AU

I led a team implementing innovative designs and solutions for a fintech startup.

Technology Architect and Strategist

UniSuper, 2011 - 2017
Melbourne, AU

I led the architecture team on the digital transformation of one of Australia's largest superannuation funds, setting up governance, design and development standards and helping to hire and mentor the team of solution architects.

Application Architect

Premier Technologies, 2008 - 2011
Melbourne, AU

I led the design and development of a leading call-center telecommunications platform.

Consultant

Readify (now Telstra Purple), 2006 - 2008
Melbourne, AU

I worked with Readify's clients, providing design guidance and solution development, in various industries from Travel to Telecommunications.

Chief Architect

LinkMe, Jan - Jun 2006
Melbourne, AU

I guided the design and development of an online recruitment startup applying AI and social networking to candidate selection.

Software Engineer

Trading Post, Jul - Dec 2005
Melbourne, AU

I was on the team that produced one of Australia's leading classified ad platforms.

Solution Architect

Telstra/BigPond, Jan - Jun 2005
Melbourne, AU

I led the design of Telstra TV, a streaming video-on-demand service.

Technical Architect

Avanade, 2004 - 2005
Melbourne, AU

I architected and created the foundation frameworks for a ground-up redevelopment of the UK's largest share registrar.

Technical Architect

Digitalbrain PLC, 2002 - 2003
Melbourne, AU

I designed and led development of one of the UK's first Digital City initiatives.

Web Development Manager

Card Protection Plan, 2001 - 2002
Melbourne, AU

I led a team of developers in creating the web site for an insurance company.

Research Officer

Parallel Applications Centre, 1998 - 1999
Melbourne, AU

R&D on software engineering of real-time systems, evolutionary computing, data compression, and robotics.

Senior Software Engineer

Fairfield Telepathology Ltd, 1996 - 1998
Melbourne, AU

I led the development of a ground-breaking Telepathology system providing imaging, remote control, video conferencing, satellite communications and image processing.

EDUCATION

B.Sc. (hons) Computer Science

University of Brighton, 1992 - 1996
Brighton, UK

Computer Science degree specializing in Software Engineering, Evolutionary Computing and Language Processing.

- **Thesis:** *Linguistic Development Literature Review*
- **Thesis:** *Evolutionary Grammar Induction* – Unpublished original research applying Genetic Programming to Natural Language Processing and Grammar Induction.

Knowledge Graphs - Foundations and Applications

7-Karlsruhe Institute of Technology, 2020 - 2024
Karlsruhe, DE

MOOC on symbolic AI, including Ontology Engineering, Knowledge Management and its use in grounding deep learning systems like LLMs.

DevSecOps

Sense of Security, Jan - Dec 2018
Melbourne, AU

Workshop introducing the embedding of security and compliance into all aspects of the DevOps development, deployment and provisioning pipeline. Introduction to tools and techniques needed to defend cloud based infrastructure from common exploits.

Human-Centered Design

LUMA Institute, Jan - Dec 2018
Melbourne, AU

A course covering the use of human-centered design, otherwise known as design thinking“, for structured innovation and product design.

Smart Cities

ETH Zurich, Jun - Aug 2017
Zurich

MOOC on how data and information will impact the design, sustainability and resilience of future cities.

Artificial Intelligence

University of Columbia, Jan - Jun 2017
New York, USA

MOOC covering recent advances in AI with practical and theoretical work on designing intelligent agents to solve real-world problems. Topics included deep learning, search, games, machine learning, classification, logic, natural language processing and constraint satisfaction problems.

HND Software Engineering

University of Brighton, 1990 - 1992
Brighton, UK

Foundational study of Software Engineering and practical software development and design.

SKILLS

Core Skills: C#, .NET, Azure, Docker, Kubernetes, IoT

Everyday Skills: Cloud Development, Terraform, Queuing (Kafka, NATS, Event Hubs, MQTT, etc), Databases (Azure Data Explorer(ADX), SQL Server, CosmosDB, PostgreSQL, MySQL, Redis), CI/CD, DevOps, TDD, DI/loC, Agile

Miscellaneous: Amazon Web Services (AWS), Event Sourcing/CQRS, Strategy, Enterprise Architecture, ArchiMate 3, AI, Knowledge Graphs, Aspect Oriented Programming (AOP), Microservices, Pair/Mob Programming, RDF(S)/OWL/SPARQL, Compiler Development

Old Stuff (sometimes handy): C, Prolog, Erlang, Elixir, Ada, Eiffel, Fish Shell, Expect, Awk, Sed, Forth, Logo, Scheme, Eiffel, Python, Go, Prolog, C++, Java, JavaScript, AOP, UML, SOA, Petri Nets, Automata