

Gihan Gamage

AI Engineer / Data Scientist

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SUMMARY

AI Engineer with 4+ years of applied AI experience, including 2.5+ years in industrial settings building production LLM, RAG, and agentic AI systems on AWS and Azure. Experienced in designing and deploying end-to-end AI solutions for document intelligence, business process automation, and enterprise knowledge retrieval, with a strong focus on evaluation, governance, scalability, and cost optimisation. PhD in Natural Language Processing, with a background spanning industry, applied research, and data science.

TECHNICAL SKILLS

Languages & Data	Python, SQL, R, DAX, Java, Pandas
ML, DL & Statistical Modelling	PyTorch, TensorFlow, Scikit-learn, XGBoost, LightGBM, CNNs, SHAP, Bayesian Networks, Correlation & Factor Analysis, Association Rule Mining, Clustering, RFM Analysis, Topic Modelling
GenAI & Agentic Systems	LangChain, LangGraph, LlamaIndex, Microsoft Agent Framework, Microsoft TaskWeaver, AWS AgentCore, Airia.ai, n8n, Strands, RAG/GraphRAG, agentic & multi-agent workflows, prompt engineering & optimisation, MCP, tool calling & structured outputs, human-in-the-loop flows
Document & Multimodal AI	AWS Textract, Azure Document Intelligence, Azure Cognitive Services, OCR, OpenCV, vLLMs, Llama-Parse, Docling
Evaluation & Governance	LLM-as-a-judge, DeepEval, fuzzy coring/matching, Guardrails, human-in-the-loop review
Cloud & Deployment	AWS (Lambda, Step Functions, Bedrock, SageMaker), Azure (ML Studio, AI Foundry, Cognitive Services), CI/CD
Visualization, BI & Delivery	Power BI, Tableau, Matplotlib, D3, Agile, Scrum

WORK EXPERIENCE

AI Automation Engineer(Full-time)

Aug 2024 - Present

Hesta

Melbourne, AU

- Designed and delivered production LLM pipelines and agentic systems on AWS for document intelligence and business process automation, replacing manual, review-heavy workflows and reducing human effort across multiple enterprise use cases, with CI/CD practices for secure, scalable deployments.
- Delivered end-to-end across the LLM lifecycle – direct prompting, RAG, fine-tuning, and agentic autonomy – applying rigorous evaluation and governance (LLM-as-a-judge, fuzzy matching, BERTScore, RAG eval) to optimise cost, quality, and reliability in production.

Production Agentic Systems

- Agentic RFP & Vendor Evaluation:** 3-stage agentic workflow (completeness check → rubric scoring → vendor comparison dashboard) with 3+ human-in-the-loop approval gates and email/SharePoint integration; standardised compliance checks across 10-15 tenders/year, progressed POC to production. Minimised manual processes, saving up to 3 months of cumulative manual effort per financial year.
- Market Sentiment Analyser Agent:** Proactive scheduled agent that scrapes financial news and market topics to derive sentiment signals, correlating them with internal investment movements to improve targeted campaigns.
- Strategic Environment Analyser Agent:** Agentic workflow examining predefined benchmark aspects to keep organisational policy definitions current for compliance and other regulatory requirements; agents work sequentially to generate leads, verify and filter them with baseline validation tests, then raise any changes for approval.

Document Intelligence AI Workflows

- Statements QA Automation:** Document intelligence pipeline extracting key fields from year-end financial statements and cross-validating them against member database records, using 350+ LLM-as-a-judge checks and deterministic rule sets; replaced error-prone Excel macros and hardwired validations, reducing errors and rework.
- Large-scale Unstructured Notes Processing:** Critical unstructured data migration completed during a company-wide administration system change; extracted TPA/POA relationships, verbal passwords, and other key fields from 1M+ member notes (1B+ tokens, \$20K AUD budget) into semi-structured, queryable datastores in DynamoDB using parallelised processing and AWS Batch scripts, with expanded Bedrock service quotas requested from AWS.
- Apttus Contract Migration AI Workflow:** LLM-based direct-prompting workflows extracted and derived 20+

fields from the Apttus CLM system during its decommissioning, building an on-prem, queryable contract store; leveraged AWS Textract, Lambda with Step Functions, and parallel AWS accounts to successfully process 10,000+ contracts, saving approximately \$220K AUD compared to RFP quotes from external vendors.

Enterprise RAG Platform

- **Organisation-wide Internal Chatbot:** RAG-based assistant rolled out to 800+ employees; SSO-integrated per-user auth, SharePoint/Confluence indexing, GraphRAG with reranking, and session context/memory persistence via DynamoDB, helping internal staff securely work with sensitive documents and other downstream tasks on a day-to-day basis.

Data and AI Specialist(Full-time, Internship)

Feb 2024 – Aug 2024

Telstra Corporation

Melbourne, AU

- Design and develop AI frameworks based on practical business problems and requirements to improve existing processes at Telstra.
- Stay updated with the latest advancements in AI and machine learning to continuously integrate cutting-edge technologies into Telstra's AI strategy.
- Engage in prompt engineering, retrieval augmented generation(RAG), agentic automation, data augmentation, and automatic evaluation of LLM-based applications.
- Utilize cloud-managed generative AI infrastructures, including Azure ML Studio and Amazon Bedrock.

Agentic Implementation

- **Multi-Agent Incident Resolution System:** Built an orchestrator-led multi-agent system (Microsoft TaskWeaver) combining RAG and text-to-SQL to compare, summarise, and consolidate real-time and historical data, identifying root causes and recommending remediation steps, and reducing the overhead of the current manual resolution process.

Data Scientist(Part-time)

Jan 2021 - Feb 2024

Centre for Data Analytics and Cognition, La Trobe University

Melbourne, AU

- Delivered end-to-end data science and AI solutions for industry clients, partnering with technical and business stakeholders to solve real-world business problems and integrate solutions into production environments.
- Built statistical models, ML algorithms, and LLM-based prototypes (including prompt engineering and fine-tuning) to extract insights from complex, data-heavy problems, presenting findings through interactive visualisations and dashboards.
- Conducted research and feasibility analysis to evaluate emerging technologies and identify the most effective, fit-for-purpose solutions, applying strong critical thinking and attention to detail.

Data Science Projects (External Clients)

- **Call Recording Data Analysis (Cancer Council Victoria):** Built an NLP pipeline analysing 60,000+ call recordings, applying topic modelling and keyword extraction alongside emotion detection. Delivered interactive Power BI dashboards that summarise patient emotions, emotion transitions, and thematic trends across cancer type, stage, and demographics.
- **Patient Segmentation & Analysis (Quantcare Pty Ltd):** Analysed 100,000+ patient records across multiple dimensions to improve churn management and inform targeted campaigns, using RFM analysis, correlation analysis, clustering, association rule mining, classification, and topic modelling.
- **Human Activity Classification (University of Auckland):** Applied CNNs to large-scale accelerometer datasets from pre- and post-osteoarthritis knee surgery patients to classify and predict human activity levels over time.
- **Energy Nowcasting & Forecasting (LEAP, La Trobe University):** Built nowcasting and forecasting models (XGBoost, LightGBM, neural networks) to predict energy usage, solar generation, and emissions from 15-minute frequency smart meter readings.

EDUCATION

Ph.D. in Natural Language Processing and Data AI, La Trobe University, Australia.

Aug 2021 - June 2024

- PhD Research: Neuro-Symbolic Architectures for Natural Language Comprehension.
- Conceptualized, designed and developed novel brain-inspired machine learning algorithms and applied them in the domains of energy, healthcare, and finance.
- Co-authored 18 research publications, including 6 in Q1 journals, received 330+ citations, reached an h-index of 10, and won two Best Paper Awards.

B.Sc. (Hons) Computer Science and Engineering, University of Moratuwa, Sri Lanka.

Nov 2015 - Jan 2020

- First Class(Honours) - 4th Highest GPA in the Department(128), Top 2.1% of batch of 914 students.
- Dean's honours list award for all semesters with CGPA of 4.03 maximum out of 4.2.
- Undergraduate thesis project: Dynamic Phylogenetic Tree Construction Workflow. Won best paper award at 19th International Conference on Advances in ICT for Emerging Regions (ICTer), Colombo, Sri Lanka, 2019

References available upon request