

Christian Andersen

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PERSONAL SUMMARY

Senior AI Engineer specializing in high-concurrency ML systems, local LLM inference, and edge deployment. Experienced in building end-to-end multi-modal RAG pipelines and optimizing model performance for resource-constrained environments under limited direction. Proven track record of translating complex technical capabilities into actionable tools for policy and operational stakeholders.

SOFTWARE SKILLS

Machine Learning & LLMs:	PyTorch, Hugging Face, vLLM, Triton, Unsloth, LangChain, MLflow, Quantization, Multi-modal RAG
Data & Search:	SQL, ChromaDB, Elasticsearch, SQLite, Tableau, Power BI
Backend & Web:	Python, FastAPI, JavaScript, TypeScript, React, Vue, Streamlit
Infrastructure & DevOps:	AWS (EKS, S3, EC2), Azure, Docker, Podman, Kubernetes, Git, Linux (Bash), CI/CD pipelines and actions

PROFESSIONAL EXPERIENCE

Department of Home Affairs

Data Scientist (AI Engineer)

February 2024 – Current

- Engineered and deployed an end-to-end multi-modal AI pipeline for edge devices, achieving a **10x throughput increase**.
- Orchestrated a technical stack combining `ffmpeg`, PyTorch/Triton for CV, and vLLM for vision-language models, integrated with a custom OpenStreetMap geocoding engine.
- Designed a multi-modal search and RAG system using ChromaDB, enabling image-to-image and text-to-image retrieval.
- Fine-tuned and quantized LLMs to optimize inference performance for domain-specific tasks on resource-constrained hardware.
- Built and maintained robust CI/CD pipelines for model deployment, ensuring reliable transitions from development environments to edge devices.
- Designed and deployed a production-ready LLM summarization web application with document upload features to support non-technical users.
- Architected a graph-based analysis framework to model complex national-scale problems, developing predictive models in a zero-literature domain.
- Built automated SQL data pipelines to ingest disparate datasets for time-series and sentiment analysis, surfacing trends via interactive Power BI dashboards for policy stakeholders.

Metro North Health – Royal Brisbane and Women's Hospital

Administration Officer

July 2023 – December 2023

- Managed financial administration and stakeholder relations within the research services finance team, overseeing invoice processing for clinical trials.
- Authored and updated Standard Operating Procedures (SOPs) for invoice management, streamlining audit trails and reducing payment overhead.
- Coordinated the 2023 Herston Precinct Symposium, managing logistics, sponsorship procurement, and event scheduling.

EDUCATION & TRAINING

Master of Data Science

Awarded Dean's Commendation for Academic Excellence (2021)

Bachelor of Mathematics (Major in Pure Mathematics, Minor in Computer Science)

Awarded Dean's Commendations for Academic Excellence (2016, 2017)

REFERENCES

References

Available on request