

Harry Kyrikos

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Summary

- Dual-degree graduate in Electrical Engineering (Hons) and Computer Science, UNSW (WAM 73.2)
- Junior Electrical Engineer at Viridian Glass – led national rollout of MEX CMMS, planned maintenance on CNC machines, day-to-day hardware and software breakdown repairs, built Power BI analytics.
- Software engineer at Cause X – developing a full-stack AI-driven SAAS using ReactJS, FastAPI, PostgreSQL, LangGraph, Github and Azure
- Proficient in Python, Java, C, SQL, ReactJS, Power BI, and Verilog with strong knowledge of AI integration, APIs, control systems, and algorithm design
- Practical experience with hardware-software interfacing and high-performance backend/frontend systems

WORK EXPERIENCE

Viridian Glass: Junior Electrical Engineer (Full time)

January 2023 – Current

- Maintain, troubleshoot and upgrade automated CNC production lines, covering electrical, mechanical and software faults across PLCs, industrial PCs, VSDs/inverter drives, servo motors, HMIs, SCADA, CAN-Bus, power systems, transformers and FPGAs.
- Test, configure, replace and parameterise sensors, drives and PLCs, with extensive use of RS-232, RS-422, RS-485, CAN-Bus, Modbus and Profibus communications
- Led the upgrade of 20 Beckhoff industrial PCs, preserving machine configurations and operating states through controlled image transfers
- Conduct fault diagnosis and reparameterisation of Lenze VFDs and motors using GDC, supporting breakdown recovery and restoration planning
- Coordinate maintenance activities with trades, contractors and suppliers, including parts procurement and purchasing through SAP
- Led the rollout of MEX CMMS across Viridian sites, managing assets, work orders, spare parts, preventative maintenance schedules and user training
- Developed live Power BI reporting from MEX via OData, DAX, Power Query, SQL and Snowflake for maintenance and asset analytics
- Integrated APIs, AI/RAG workflows and HTTPS automation with MEX to support data entry, preventative maintenance, condition monitoring and failure prediction; also developing deep-learning production scheduling optimisation.

Cause X: Software Engineer (B2B AI SaaS) (Part time)

July 2020 – January 2023

- Developed a full-stack B2B AI SaaS platform call Columbo using ReactJS, FastAPI (Python), PostgreSQL, LangGraph, GitHub Actions and Azure
- Built an agentic RAG investigator for operational risk workflows including 5 Whys RCA, London Protocol, PIR and ICAM
- Developed end-to-end RAG pipelines using Pinecone vector search, Redis caching, LangChain and multi-LLM support across OpenAI and Claude
- Established production-ready CI/CD pipelines from GitHub to Azure with automated testing, controlled deployments and repeatable release workflows
- Implemented Microsoft SSO/OAuth and applied deep learning methods to improve complex reporting and analysis workflows

RELEVANT PROJECTS

Household Energy Consumption DL Time Series Forecasting Thesis (UNSW)

- Developed 4 conditional generative deep learning time series forecasting models designed to learn 2000 Australian household's smart meter data and predict household energy consumption at multiple horizons
- Designed and implemented the following generative deep learning RNN-Diffusion, Transformer-Diffusion, RNN-VAE and Transformer-VAE. Used libraries such as PyTorch, TensorFlow, ydata, SciPy, NumPy, Panda, Matplotlib etc
- Conducted model performance analysis with discriminative baselines such as TFT, iTransform, N-Hits, TSMixer

Digital Health Monitoring System (UNSW)

- Designed and programmed an FPGA based health monitoring system for patients susceptible to convulsing; raising an alarm based on breathing, temperature and heart rate
 - Designed and programmed software of an ARM microprocessor to handle the I/O of the FPGA and display status
 - Use of Verilog and C++ to program FPGA and ARM processor respectively
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BJT Audio Power Amplifier (UNSW)

- Designed and built a 3 stage BJT audio amplifier capable of 7W output power
- Use of differential pair for negative feedback loop and control overall gain, common emitter voltage amp, and double cascaded Darlington pair current amp.
- Use of op-amp adder circuit to allow for up to 3 input signals

Sync Sound - Shared Wireless Audio (Self)

- Designed and built a pair of true wireless earphones with the capability of sharing audio with other Bluetooth devices in a daisy chain
- PCB consisted of SMD's that made up the power supply module, MCU module and audio processing module
- Programmed the STM32WBA63 MCU utilising Bluetooth LE Audio to facilitate the simultaneous synchronised redistribution of audio to other connected Bluetooth devices

Capstone Project – igive (UNSW)

- Led the design and delivery of a Computer Science assignment submission and auto-marking system for UNSW using ReactJS, FastAPI (Python), PostgreSQL and Docker
- Developed role based system (Student, Tutor, Lecturer, Site Admin)
- Managed sprints and user stories via Jira, delivering to client deadlines

Networks Projects (Self)

- Programmed server and client endpoint scripts where a client can upload files, download files and do various computations with data via a server using TCP (Python)
- Implemented P2P functionality amongst clients using UDP for sending files
- Built a DNS resolver application according to RFC DNS documentation; works similar to nslookup's DNS capabilities

Digital Pulse Divider (UNSW)

- Designed and built a digital pulse divider with selectable divide-by-1 to divide-by-4 outputs
- Optimised truth tables and redesigned the logic over three iterations to reduce component count, preserving input pulse width; developed the PCB schematic and layout and built the final circuit

Automated Trading Agent – Damus (Self)

- Developing an automated trading agent that utilises both text based generative AI (LLMs) and empirical based generative AI (generative time series deep learning models) to conduct time series forecasting of financial markets
- Utilising Alpaca API in Python to test live on crypto market (paper trading as of current)
- Combine skills from Cause X and findings from my thesis project

TECHNICAL SKILLS

Fluent in C & C++	Experienced in Electrical Spice drawing programs	Experienced in Agile/Scrum
Fluent in Python	Can read and interpret electrical drawings	Experienced in CI/CD pipelines
Fluent in Java	Knowledge in frequency inverter parameterisation	Experienced with PyTorch
Fluent in SQL	Experienced in Verilog and Vivado	Experienced with Tensorflow
Fluent in HTML, CSS,	CMMS Expert (particularly MEX)	Experienced with Pandas, NumPy,
JavaScript/ReactJS/NodeJS	Experienced with LangChain/LangGraph	SciPy, Polars, Django, FastAPI, Flask
Experienced with Git	Competent in CAD drawing (can use Fusion 360)	Excellent communication skills
Competent with Bash	Competent in Microsoft applications	Experienced with ORMs
Experienced with Azure	Experienced with Power Bi	Experienced in socket programming
Knowledge in Haskell	Experienced with KiCad PCB Design	Experienced with Linux OS
Experienced with REST APIs	Experienced with SMD soldering	Experienced with Microsoft OAuth
Experienced with Docker	LabView Experience	Experienced with Unix

EDUCATION

Tertiary University of New South Wales	2020 – August 2026
WAM – 73.2 Bachelor of Electrical Engineering (Honours) Bachelor of Computer Science	
Secondary Knox Grammar School	2019
ATAR - 92.8 Ext 1 Mathematics, Physics, Chemistry, Economics, English State swimmer State waterpolo	

REFERENCES

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