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KYI PHYU (KRISTAL) SIN

SOFTWARE ENGINEER

SUMMARY

Highly-driven **Software Engineer** experienced in building **ML models**, scalable **ETL systems**, and **GenAI-powered** web apps on AWS, driving automation and data reliability across multiple domains at **BHP**.

EDUCATION

Bachelor of Computer Science – University of Queensland (GPA: 6.25/7.00)

July 2023 | Brisbane, QLD

Relevant Coursework: Introduction to Software Engineering, Computer Systems Principles & Programming, Algorithms & Data Structures, Artificial Intelligence, Cloud Computing, Web/Mobile Programming, Fundamentals of Data Science, Information Systems

RELEVANT EXPERIENCE

Graduate Software Engineer – BHP

Feb 2024 | Brisbane, QLD

Two-year rotational graduate program, transitioning through **multiple technical teams** every **6 months**.

Partnered with **cross-functional teams** in an **Agile environment**, driving delivery with **Jira** and **Confluence**.

- ◆ **Data & Digital: People Domain** – Feb 2024 - Aug 2024
 - Developed and deployed a Random Forest-based **ML model** into an existing attendance tracking system to predict and flag roster-attendance mismatches, improving shift reliability and reducing manual discrepancies by ~40% across mine sites.
- ◆ **Cyber Engineering** – Aug 2024 - Feb 2025
 - Implemented a new **analytics feature** for the internal phishing incident tracker, automating calculation of resolution times and surfacing triage insights via a dashboard, and reducing average investigation time by ~30%.
- ◆ **OFT BOME Engineering: BHP GenAI Agents Hub** – Feb 2025 - Aug 2025
 - Authored comprehensive **technical documentation** and onboarding guides detailing **codebase architecture**, **Git workflows**, and **infrastructure (Terraform)**, which accelerated developer ramp-up and reduced onboarding friction.
 - Engineered and deployed a GenAI internal **Streamlit** web app on **AWS** leveraging **Bedrock** embeddings and **OpenSearch** vector search to enable dynamic document ingestion and improve **semantic retrieval accuracy** for automated customer insights.
- ◆ **Data & Digital: Mining Domain** – Aug 2025 - Present
 - Building a scalable data synchronization service within BHP's **Haul Tune** platform to integrate real-time **haul-truck telemetry** with **Short Range Forecast** data, focusing on **high-throughput ETL pipelines**.
 - Designing **scalable validation and reconciliation logic** to align **real-time machine data with forecast plans** across mine sites, improving data reliability and ensuring alignment for business-critical decision-making.

TECHNICAL SKILLS

- ◆ **Languages:** Python, Java, C, C#, Javascript, HTML, CSS, SQL
- ◆ **Databases:** MySQL, PostgresSQL, NoSQL
- ◆ **Cloud & Infrastructure:** AWS (Bedrock, DynamoDB, Lambda, OpenSearch Serverless, S3, SageMaker), Docker
- ◆ **Tools & OS:** Git, Jira, Confluence, Linux/Unix

PROJECTS

- ◆ **HexBot (Python):** Designed and implemented A **Graph Traversal and Path Finding** algorithms for Reinforcement Learning (RL) agents within a custom hex-grid environment, optimizing **decision-making efficiency**.
- ◆ **Wordly (C):** Built a dictionary-based word validation game, including a separate, **high-performance multi-process test framework** utilizing IPC (Pipes/Shared Memory) for concurrent testing.
- ◆ **Phobophobia (Unity, C#):** Led a 6-person team to **develop a VR fear simulation game**, focusing on **real-time rendering optimizations** for smoother performance.
- ◆ **Resort Booking Webpage (Full-Stack):** Designed and deployed a **full-stack, containerized (Docker)** booking platform with a RESTful PHP backend, modern **Javascript/CSS** front-end, and a secure **MySQL** database