NATHAN WONG SHIH HAO

+852 9745 0024 | nathanwongshihhao@gmail.com | https://www.linkedin.com/in/nathan-wong-shih-hao/

EDUCATION

The Hong Kong University of Science and Technology, Hong Kong · September 2022-June 2026
Bachelor of Engineering in Computer Science (Exchange Program to University of Waterloo)
- **Awards:** Reaching Out Award (2024), University Entrance Scholarship (2022)
- **Courses:** Cloud Computing, Search Engine Web Scraping, Database Management, Data Structures & Algorithms, Artificial Intelligence, Software Engineering, Operating Systems, Object Oriented Programming, Discrete Maths.

WORK EXPERIENCE

Hitachi Rail GTS | R&D Software Intern | Hong Kong · June 2025-February 2026
- Researched regression models for Project NAIA to forecast passenger flow analytics for multi-line networks.
- Enhanced the performance of the primary scripting algorithm by 20% and optimized the data collection system through the use of batch processing in ClickHouse DB, leveraging its OLAP architecture for improved query performance.
- Engineered a Kafka pipeline and implemented a producer-consumer side schema registry, integrating schema validation to facilitate the ingestion of data in various formats for improved data processing and pipeline integration.
- Coordinated the deployment of Project NAIA to Hitachi's ALVEA platform by implementing a Jenkins CI/CD pipeline for integrated testing and employing a Kubernetes cluster for operational management, with an emphasis on scalability.
- Explored the most effective time series forecasting models, concentrating on ARIMA, SARIMAX, and LightGBM.

Total Rehabilitation Management (TRM HK) | Software Developer | Hong Kong · June 2024-August 2024
- Designed and implemented a client-side legal document search bar using JavaScript, C#, and MySQL, achieving 70% completion within the timeline. Streamlined legal document retrieval, reducing search time by 50%.
- Collaborated with the Claims Department to revamp a data extraction system utilizing Python and MySQL, achieving automation in insurance claim data processing that reduced analysis time by 80%, enhancing operational efficiency.
- Researched and evaluated multiple large language models (GPT-4o, GPT 4o-mini, Claude, Gemini, etc) to filter and prioritize insurance claim information, reducing manual bias and document review times by 20%.
- Led the development and deployment of a chatbot for the internal staff portal using JavaScript and C#, increasing user engagement from 2 messages per week to 20 messages per day and enhancing staff-client communication.

ORGANIZATIONAL EXPERIENCE

HKUSTSU Southeast Asian Students' Association | President | Hong Kong · February 2023-February 2024
- Oversaw the progress of six events and directed a team of 20 while actively initiating new projects and initiatives.
- Increased participation rates to events by 300% from the 4 major Southeast Asian country groups in HKUST.
- Advocated recommendations to Southeast Asians in HKUST and acting as representatives to the Student Union.

ICMS | 13th Internal Affairs Executive Director | Hong Kong · February 2023-February 2024
- Led the Internal Affairs division consisting of 28 chapter directors and 92 associates from all over the globe.
- Spearheaded the Gala Night Initiative with 250 attendees consisting of sponsors and alumni for a night of reunion.
- Established connections with companies such as Axiata, Shopee, Shell, Procter & Gamble, Maybank and Sunway.

PROJECTS

Time Series Forecasting
- Initiated a self-directed spinoff project focused at gaining insights into time series forecasting, centered at S&P 500.
- Evaluated various time series forecasting methods, including ARIMA, SARIMA, ETS, LightGBM and LSTMs.

Optical Character Reader (OCR) and Summarizer
- Extracted and summarized data from PDF documents, specifically oriented for interpreting doctor handwriting.
- Specialized in prompt engineering to create and test optimal prompts for effective information retrieval.

SKILLS AND COMPETENCIES

- **Coding Languages:** Proficient in Python, C, C++, C#, Java, Scala, JavaScript, MySQL, HTML, CSS, Bash.
- **Tools:** Git, Docker, Jenkins, Kubernetes, Apache Spark, Hadoop, Kafka, Avro and Pulsar.
- **Other Skills:** Cloud Computing (AWS), DevOps, Data Science, Time Series Forecasting, Networking.
- **Languages:** Fluent in English, Bahasa Indonesia, Chinese (Mandarin).
- **Interests:** Golfing, travelling, landscape photography, Southeast Asian economies.