Joel Sng Zhen Wei

Business and Information Systems Final Year Student

joelsngzw@gmail.com • linkedin.com/in/joelsngzw • 84992823 • 7 Ripley Crescent, 556185 • Portfolio JoelSng.com

Education

Singapore Management University (*GPA: 3.79/4.00*)   *Aug 2021 – Present*

Double Degree: Bachelor of Business Management (Operations Major) & Bachelor of Information Systems (Analytics Major)

Key Courses Taken: Machine Learning & Applications | Supply Chain Analytics | Data Management | Global Supply Chains

Achievements: Magna Cum Laude | SMU Yu Xin Community Leadership Award | Dean's List for all applicable years.

Co-Curricular Activities: Community Service (SICS and StarringSMU) | SMU Climb Team | SMU Muay Thai.

Professional Experience

Data Science Intern, Zurich Insurance   *Jan 2025 – Present*

- Supported the APAC Data Science team in developing advanced data-driven solutions for business challenges.
- Developed an automation tool in Python using Selenium to conduct SEO in several languages, cutting down SEO research time by 80%.
- Leveraged Large Language Models (LLMs) and API integrations to conduct thorough competitor analysis.
- Built and implemented automated report generation workflows to regularly collect and summarise data on LLM chatbots usage.
- Developed case classification pipelines in LangChain to analyse customer correspondences, cutting down case analysis time by 70%.
- Developed NLP case classification and data extraction pipelines to analyse, categorise, and extract information from unstructured correspondences.
- Tools: Python, Azure, LangChain, Selenium, LLMs.

Data Analyst Intern, Housing & Development Board   *Jan 2024 – Aug 2024*

- Built and deployed Random Forest machine learning model to detect anomalies in transaction data and identify suspicious activities.
- Accelerated data processing by implementing RPA workflows with UiPath and OCR, reducing processing time from 4 mins to 30s.
- Applied natural language processing (NLP) for topic modeling, clustering, and categorization of unstructured customer correspondence data.
- Designed automated data pipelines for extracting and cleaning unstructured data using SAS to improve operational efficiency.
- Developed interactive dashboards in SAS and Tableau to visualize structured transaction data for rental and transfer activities.
- Tools: SAS, UiPath, PowerBI, SQL, R, Tableau, Python.

Digital Transformation Consulting Intern, PwC Singapore   *May 2023 – Aug 2023*

- Contributed to digital transformation engagement for one of Asia's largest real estate investor / developer / manager.
- Conducted data analysis on business partner data to produce actionable insights for Digital Transformation team.

Projects ⬈

Options pricing using machine learning ⬈   *Aug 2024 – Dec 2024*

- Conducted comprehensive comparative analysis of machine learning models and mathematical methods for options pricing.
- Designed and implemented SVR, artificial neural networks, and LSTM models, benchmarking performance against the Black-Scholes model.
- Developed a hybrid classification-regression ANN model to enhance the accuracy of options price predictions.
- Achieved superior performance in RMSE and R-Squared metrics compared to traditional and simpler ML models.
- Tools: Python, Scikit-learn

Employee scheduling web application with DevOps focus ⬈   *Aug 2024 – Dec 2024*

- Led a 5-month software development project as Scrum Master, lead DevOps engineer, and backend developer.
- Handled deployment of backend, creation of testing pipelines, and configuring GitHub actions workflows to facilitate CI/CD.
- Managed development by overseeing 2-week sprints, facilitating daily standups, and maintained project visibility using Jira, GitHub, and Confluence.
- Tools: Flask, ReactJS, NextJs, AWS Relational Database

Leadership and Community Service

President, Special Interest and Community Service Sodality   *Jan 2023 – Dec 2023*

- Leader of a committee overseeing 22 SMU clubs, including the 9 largest SMU community service organisations.
- Held a seat on the SMU student council, representing SMU community service.
- Oversaw largest run of SMU's flagship fundraising event, SMOO Challenge, raising $617'000.
- Oversaw 7 school-wide student life events including a freshman camp, community service projects, and welfare drives.
- Awarded SMU Yu Xin Community Leadership Award for my role in championing community service and student life vibrancy.
- Invited to speak on a CNA radio talk show, CNA938 Our Town, on undergraduates and youths' relationship with volunteerism in Singapore.

President, StarringSMU'22   *Jan 2022 – Dec 2022*

- Leader of largest freshman community service project in SMU.
- Project of 95 volunteers which helped over 250 persons with disabilities.
- Expanded project scope by developing partnerships with Heartware Network and Youth Council Singapore.
- Project success received an award of appreciation from President Halimah Yacob during the President's Challenge Appreciation Night at the Istana.

Skills

Coding Languages: Python, SQL, Java, R, JavaScript, HTML.

Frameworks/Libraries: Scikit, Selenium, NextJS, ReactJS   **Software Tools:** Azure, Power BI, UiPath, Tableau.

Certifications: Data Analytics (IBM), Excel (IBM), Python (University of Michigan), SQL (University of Michigan).