CHESTER YAP JIE REN

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Summary

Current undergraduate in NUS majoring in Chemistry with a minor in Economics. Passionate about the intersection between Chemistry and Economics.

Education

National University of Singapore | Bachelor of Science (B.Sc.) Chemistry and minor in Economics | Aug 2021 – Aug 2025

City University Hong Kong |Student Exchange Programme | Jan 2024 – May 2024

Work Experience

Materials Intern, Research, Design and Development, Dyson | January 2025 – May 2025

- Developed a prediction model for environmental stress cracking (ESC) and solubility parameters of polymers using MATLAB and Minitab, reducing response time and operational cost.
- Conducted ESC testing on plastic plaques to evaluate material durability and chemical resistance delivering insights into material durability and chemical resistance.
- Created a comprehensive database of chemical data and solubility parameters to improve the usability and accuracy of the prediction model.
- Performed FTIR testing to determine the composition of materials in various products supporting material selection and product optimization.

Part-time Student Researcher , NUS Environmental Research Institute | September 2024 – December 2024

- Collected and processed air samples using denuders and DNPH cartridges to analyse atmospheric pollutants.
- Conducted chemical analysis, including High-Performance Liquid Chromatography (HPLC) and formaldehyde extraction, to quantify air contaminants.
- Reviewed and summarized scientific literature to support ongoing environmental research initiatives.

Research Intern, Singapore Institute of Manufacturing Technology, ASTAR | May 2024– August 2024

- Developed and produced strain sensors for various applications, ensuring high sensitivity and accuracy.
- Created a prototype to detect muscle movement, utilizing advanced sensor technology to enhance precision and responsiveness.
- Conducted studies and experiments focused on increasing fabric adhesion leading to improved durability and performance of sensor-integrated fabrics.

Extracurricular Activities

Science Camp Director, National University of Singapore | September 2022 – September 2023

- Led a team of 23 individuals in planning a camp for 330 participants, ensuring a seamless and memorable experience.
- Successfully managed and forecasted a budget of $30,000, demonstrating strong financial acumen.
- Coordinated logistics, including transportation, accommodation, and activities, to ensure the smooth execution of the event.
- Facilitated team meetings, distributed responsibilities, and maintained effective communication to ensure project milestones were met.