Marshall Junze Zhang

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EDUCATION

University of Sydney FEB 2022 – FEB 2026
Bachelor of Engineering Honours (Chemical and Biomolecular Engineering, Specialised in Wastewater Treatment)

WORK EXPERIENCE

Jacaranda Flame Consulting JUN 2025 – AUG 2025
Systems Engineer Intern

- Production modelling with Microsoft Excel with solver add-in
- Compared batch configurations using throughput, unit cost and CAPEX/OPEX sensitivity analysis.

Vow Food Industry SEP 2023 – DEC 2023
Engineer Intern

- Supported commissioning of a 20-kL bioreactor through piping integration, pressure testing and functional checks.
- Worked interdisciplinary with professionals on integration issues; proficient with procedure documentation and communication

INDUSTRY PROJECTS

University of Sydney Nano Institute FEB 2025 – NOV 2025
Honours Thesis
Electrochemical Process Modelling and Techno-Economic Assessment

- Hydrogen peroxide production cost modelling and sensitivity analysis using Microsoft Excel

University of Sydney AUG 2025 – NOV 2025
Green Ammonia Production Plant Design – Team Leader

- Designed a green ammonia plant in Karratha to produce approximately 3,290 kmol/h of ammonia, with an overall yield of 99.4%.

University of Sydney FEB 2025 – JUN 2025
Paracetamol Production Facility Design

- Designed a paracetamol production facility in Melbourne with a target output of 500M tablets/year and a modelled API purity of 99.93%.

SKILLS

Software & Tools

Aspen (HYSYS & Plus)

BioWin

Coding (Python & R)

MATLAB (with Simulink)

Microsoft Office (Excel, Project)