

# ZACH AL-FARABI

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## ABOUT ME

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Adaptable and enthusiastic engineering student at The University of Adelaide, currently pursuing a double degree in Mechanical Engineering, majoring in Aerospace Engineering and Finance and Banking. Committed to ongoing personal and professional development; curious in the fields of engineering, mathematical modelling, finance, and especially space. I am always willing to learn and adapt to new things, actively developing my technical and personal abilities. ***I hold Australian Citizenship.***

## EDUCATION

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**The University of Adelaide** **Feb 2022 - Nov 2026 (expected completion)**  
**Bachelor of Engineering (Honours)(Mechanical) Aerospace Major with Bachelor of Finance and Banking**  
GPA: 6.32/7 (as of Jun 2025)

- (2025) **Honours project** in *Aircraft Usage Severity Assessment Comparison*; my role is the rigour of the mathematical modelling and programming, including stochastic, statistical, simulation modelling. Industry sponsored by *Ascent Pty Ltd*.
- (2024) Acquired credits to a competitive study tour in Japan, learning about leading materials and manufacturing research.
- (2023) *WARMAN Local Competition 'Best Design Award'*, Designated programmer (Arduino), Lead electronics (motors, motor controllers, sensors), Aided in CAD and technical drawings (CATIA).

**Australian Science Mathematics School** **Jan 2019 - Feb 2021**  
Raw ATAR: 95.30, Selection Rank: 98.45

- (2021) Acquired a competitive scholarship grant to study as part of a *University Extension Program* for credits towards year 12 ATAR in **Flinders University** with GPA: 6.5/7.
- Acted as an open-night ambassador and tour guide across three years. Participated in the Ideation Adventure Space Program, learning basic engineering skills, and Mathematical Methods Headstart Program.

## EXPERIENCE

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**Treasurer and Mechanical System Designer** **Jan 2024 - Apr 2025**  
*The Adelaide Rover Team (ART)*

- Created, managed, and led the entire financial infrastructure and procurement pipeline for the ART, collaborating with various field-technical leads. I oversaw all finance and cashflow operations for a AUD\$ 35 000 rover system. Supported the movement and expansion of the team's workshop space with a largely growing inventory, raising capital of AUD\$ 35 645.
- Pioneering *Financial Director* of an experimental designated finance team and field to diversify skill sets within the team - later officially adopted for the 2025-2026 cycle. Adopted acting sponsorship director role within December and January.
- Developed an experimental robotic arm as a key mechanical designer, electromagnetic end-effector, and belt-drive system, acquiring high proficiency within Autodesk Inventor for CAD and technical drawing purposes.
- Led the management of the ideation of the modular end-effector design and integration for the 2023-2024 and 2024-2025 cycle team. This included integrating electrical (PCB), mechanical, and firmware.

**Treasurer** **Dec 2023 - Dec 2024**  
*AMESS Adelaide Mechanical Engineering Student Society*

- Managed all finance and cashflow operations, standardising consistent financial journalising for outgoing or ingoing cashflows. Led management of AMESS's biggest event, merchandise operations, partnering in other events and media activities.

**Space Industry Work Experience** **Dec 2020 - Jan 2021**

- Accomplished the Space Industry Work Experience Placement Faculty of ECMS (now SET), researching *Examined Cobalt Extraction from Asteroids using a Continuous Flow Reactor* with a small team and supervisor.

**STEM Communications and Teaching** **Jan 2022 - present**

- Experienced in over 3 years of high school tutoring for mathematics and physics, with a history of 15+ clients. Additionally, running STEM workshops for high school students for the University of Adelaide as of Jan 2025, engaging space and STEM.

## PERSONAL PROJECTS

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- **Electrical:** Dual-controllable light-timing game, 16-bit PCB and shield
- **Programming:** Option-derivative function model, Text RPG, Web-scraper price tracker, PDF grid-space note-taking compiler, personal Engineering Portfolio (HTML/CSS/JS).

## SKILLS

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- **Technical skills:** Autodesk Inventor and 3DEXPERIENCE CATIA (CAD and Technical Drawings), MATLAB, Python, Arduino HTML/CSS/JS/Bootstrap.
- **General Skills:** Adaptability, Curiosity, Mathematics, Analytical thinking, Leadership, Teamwork, Research, Organisation.