

ZACH AL-FARABI

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ABOUT ME

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

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

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

- [An extensive list of my personal projects in Engineering, Programming, and Finance are in my Personal Portfolio. Click this line or go to https://zachalfarabi.github.io/Engineering-Portfolio/](https://zachalfarabi.github.io/Engineering-Portfolio/)

SKILLS

- **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.