Abdullah Tahir

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EDUCATION

University of Adelaide — Adelaide, SA
Bachelor of Mechanical Engineering (Aerospace) with Bachelor of Computer Science — *– Nov 2025*

WORK EXPERIENCE

Academic Tutor | *SY Tuitions / Private* — Jan. 2022 – Present
- Provided tutoring services for 25+ high school students undergoing Mathematics and Physics within the SACE and IB curricula.
- Collaborated closely with multidisciplinary team of educators to develop customised learning strategies for individual students spanning from ages 12 to 18, leading to 15 - 20% improvements in academic performance on average.
- Actively sought feedback from students and parents alike to refine teaching methods, demonstrating a commitment to open communication and continuous improvement.
- 100% of final year students within the previous academic year achieved results above A-.

PROJECTS

Bitboard Chess | *Github* — Sept. 2023 – Present
- Developed a chess game using unsigned 64-bit integer masks (bitboards) to represent the state of the board, inspired by the rapid and efficient Stockfish chess engine used in lichess.org.
- Utilised the SDL2 C++ graphics library to provide visual and auditory feedback for valid moves, captures, check and checkmates.
- Implemented an object-oriented system ensuring the generation of valid chess moves, including piece-specific movements, and pinned piece detection.

Typing Test Web Application | *Github* — Dec. 2023 – Jan. 2024
- Developed a typing test application that allows users to practice their typing fluency in different programming languages, and coding common algorithms such as Binary Search.
- Implemented a dynamic and responsive user interface with React through the inclusion of theme toggles, various timer settings, a smooth caret, and immediate visual feedback based upon test accuracy.

Terminal Based Home Appliance System | *Github* — Apr. 2022 – May 2022
- Collaborated in a team of three to develop a terminal-based application for managing home appliances.
- Enabled creation and management of various rooms, appliances, complete with customisable settings and a save/read state feature.
- Followed the four core principles of object oriented programming to adhere to design requirements and ensure efficient, intuitive code.

COMMUNITY INVOLVEMENT

Crater Detection Algorithm Research — Aug. 2023 – Aug. 2023
- Undertook a three-week intensive research project to explore crater detection algorithms (CDA), driven by personal interest in real-world space applications.
- Assisted existing PhD students in their research, investigating various CDAs and devising strategies for improvements, the findings of which were used to guide the project further.
- Strengthened planning skills and adaptability in tackling unfamiliar languages and concepts.

Ravi's Study Program — Nov. 2023 – Feb. 2024
- Took part in an intensive study program focused on helping students prepare for software engineering internships.
- Undertook and delivered 20+ mock interviews, providing each interviewee with invaluable feedback.

TECHNICAL SKILLS

Languages: C/C++, JavaScript, HTML/CSS, MATLAB
Other: Git, React JS