Abdullah Tahir

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Work Experience

Software Engineering Intern | Inovor Technologies Dec. 2024 – Feb. 2025

- Developed a full-stack dashboard web application to display live satellite telemetry data that became a centerpiece demonstration tool for clients.
- Implemented an interactive 3D satellite visualistion module using CesiumJS, providing real-time positioning and ground station connectivity links.
- Engineered an orbital decay prediction module using historical satellite orbital data to provide critical insights into satellite mission lifespans.

Projects

Predictive Maintenance Model for Rail Break Detection | Python Aug. 2024 – Nov. 2024

- Developed a machine learning pipeline using Azure Databricks and Scikit-learn to predict rail breakages.
- Delivered a high-performing machine learning pipeline that **ranked first out of 15 groups**, winning the project competition.
- Collaborated in an Agile team of 9, implementing bi-weekly scrums and test-driven development (TDD) to iteratively enhance the pipeline.

Bitboard Chess | C++ Sept. 2023 – Jan. 2024

- Developed an efficient chess game using bitboards (64-bit unsigned integers) to optimise memory and board state representation.
- Utilised the SDL2 graphics library to create a visually responsive user interface that provides auditory feedback for valid moves, captures, check, and checkmates.
- Implemented valid move generation, capturing logic, and game state handling, showcasing strong problem-solving and software design abilities.

Education

University of Adelaide Nov. 2025

Bachelor of Mechanical Engineering (Aerospace) with Bachelor of Computer Science

Relevant Coursework: Computer Systems, Algorithm Design & Data Structures Analysis, Object Oriented Programming, Problem Solving & Software Development, Introduction to Statistical Machine Learning, Computer Vision, Using Machine Learning Tools, Artificial Intelligence.

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.
- Devised strategies for improving existing CDAs, assisting PhD students in research, guiding their project further.
- Strengthened planning skills and adaptability in tackling unfamiliar languages and concepts.

Competitive Programming Club Mar. 2023 – Present

- Competed in contests such as LeetCode competitions, SPAR (formerly ANZAC), Codeforces, and inter university competitive programming rounds.
- Collaborated closely within a team of three to solve complex problems under time-pressured situations, enhancing individual abilities to efficiently communicate ideas under stress.

Technical Skills

Languages: C++, C, Python, MATLAB, HTML/CSS, Javascript
Frameworks & Libraries: Pandas, Numpy, Scikit-learn, PyTorch, Matplotlib, Dash, Plotly, Ephem
Tools: Git, Azure Databricks, Jupyter Notebooks
Development Practices: Agile, Scrum, Test-Driven Development (TDD), SOLID principles