Kazi Tawfiq Bin Ali

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PROFILE

- Driven mechatronics engineering student with a strong academic background in physics, mathematics, and computer science
- Passionate about developing innovative solutions in energy systems, mechatronics, and technology

EDUCATION

Bachelor of Engineering Honours (Mechatronic Engineering)   February 2023 - Present
University of New South Wales
- Major in Mechatronics Engineering (Currently in 3rd year)
- Current Weighted Average Mark (WAM) : 75.4 (Distinction)

International Baccalaureate Diploma Programme   May 2022
The Aga Khan School, Dhaka
- Total Points: 39 (Bilingual Diploma Awarded)
- Higher Level (HL): Computer Science (7), Physics (6), Mathematics Analysis & Approaches (5)
- Standard Level (SL): Bengali Literature (7), English Language & Literature (6), Economics (6)

EXPERIENCE

Project Team Member   September 2025 - Present
Alstom
- Designed CAD models and assemblies in SolidWorks for test bench components
- Assisted in PCB design to support traction controller testing
- Collaborated with team to deliver efficient and industry-aligned engineering solutions

Team Member (Casual)   July 2023 - Present
Bunnings
- Guaranteed personalised customer service, ensuring customers' needs are met efficiently
- Acted as a key point of contact for technical guidance across hardware categories, including fasteners, power tools, and building materials
- Collaborate with team members to ensure smooth operations

Private Tutor   February 2020 - February 2022
Tutoring High School IB-DP and A-Level Students
- Delivered personalized tutoring sessions for IB-DP students, enhancing grades in subjects such as Physics and Mathematics
- Guided students with problem-solving techniques and critical thinking, resulting in boosted academic performance

Customer Relations Officer   March 2021 - January 2022
Agroshor
- Developed and maintained strong relationships with clients, enhancing overall satisfaction
- Provided solutions to customer issues, leading to a 20% increase in positive customer feedback

Customer Relations Officer   February 2020 - January 2021
Elevate
- Managed customer inquiries, complaints, and service requests, ensuring client satisfaction
- Provided technical support and guidance on products and services, improving customer retention

RELEVANT PROJECTS

Micromouse Maze-Solving Robot   April 2025 - August 2025
- Built an autonomous robot to navigate a 10x10 maze using computer vision, sensor fusion, and path planning

Autonomous SumoBot   March 2025 - August 2025
UNSW RAMSOC
- Designed and programmed a high-agility battle robot to detect, track, and outmanoeuvre opponents in the UNSW RAMSoc Sumobots tournament
- Optimized drive system and compliance within strict hardware constraints

AI-Based Sign Language Classifier   January 2025 - June 2025
- Trained a convolutional neural network (CNN) by utilizing TensorFlow and Keras to classify ASL hand gestures; achieved high accuracy through image preprocessing and data augmentation

Airline Booking and Tracker Platform   November 2024 - February 2025
- A full-stack flight booking system utilizing Django, JavaScript, and SQL, integrating user authentication, data storage, and MVC-based web application structure

Finance Trading Simulator   August 2024 - December 2024
- Built a web-based stock trading application using Flask, SQLite, and IEX API, enabling live data fetches, and responsive design with Bootstrap

FPGA-Based Digital Circuit Design   February 2024 - June 2024
- Designed and implemented combinational and sequential logic circuits with Verilog HDL on FPGA platforms with Xilinx ISE tools, focusing on circuit optimization and hardware troubleshooting

Educational Platform Backend Development (Toohak)   September 2023 - December 2023
- Built a backend system for an interactive learning platform with JavaScript, Express.js, and REST APIs for efficient client-server communication

Autonomous Container Delivery (ACD) Vehicle   February 2023 - June 2023
- An autonomous vehicle capable of transporting containers while following a predefined path using Arduino, Motor Control, Sensor Integration, Embedded C, and CAD

iCareU   February 2022 - January 2023
- A Java and MySQL-based software to help small healthcare clinics efficiently manage patient records, appointments, and essential data, improving workflow automation

INTERNSHIP EXPERIENCE

Assistant Consultant   February 2025
GHD Group Engineering Consulting Virtual Experience
- Completed a job simulation involving an options analysis for different rail alignment options for the GHD transport team
- Drafted design brief documents and preliminary designs to formulate cost and construction time estimates for different rail alignment options
- Investigated and compared impact of each alignment option on stakeholders, environment and design outcomes
- Compared each alignment option using a weighted options analysis spreadsheet and communicated key findings and recommendations to client in a technical memorandum

Policy Officer   February 2025
NSW Government Digital Job Simulation on Forage
- Completed a job simulation focused on digital solutions for NSW Government

- Developed a communicated policy ideas to reduce data breaches
- Identified customer requirements for an End of Life Journey service offering

TECHNICAL SKILLS

- Programming: Python, C, C++, Java, JavaScript, SQL, Objective-C, HTML, CSS, Verilog HDL
- Web Development: Django, Flask, Express.js, Node.js, REST APIs, MongoDB, SQLite
- Simulation and Modelling: MATLAB, SolidWorks CAD, AutoCAD, Rhino, WeBots, Maple, Blender, MapleSim, Simulink
- Digital Circuit Design & FPGA Development: Skilled in Verilog HDL and FPGA programming utilizing Xilinx ISE; proficient in building and optimizing digital circuits
- Machine Learning & AI: TensorFlow, Keras, scikit-learn, Pandas, NumPy, OpenCV, CNNs, Regression Models
- Embedded & Hardware Systems: Arduino, Raspberry Pi, Verilog HDL, Xilinx ISE, Digital Circuit Design, Sensor Integration
- Other Tools: Git, Canva, OBS Studio, Microsoft Office

INTERESTS

- Volleyball: Played in under 18 nation-wide tournaments and high school club prefect
- Languages: English (Native), Bangla (Native), Hindi (Proficient), Urdu (Proficient)
- Hobbies: Football (Soccer), Gaming (Valorant, FIFA, FC), Gym
- Technical Skills: Video Editing, Blender 3D modelling

REFEREES

Available upon request