

# Syed Ismail Hussain Shah

0480 169 323 | Perth, WA 6000 | syedismail81@yahoo.com | [www.linkedin.com/in/SIHS](http://www.linkedin.com/in/SIHS)

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## INTRODUCTION

Dedicated Graduate Mechanical Engineer with Upper Second-class honours, showcasing a passion for innovation and problem-solving. Proven technical skills from diverse academic projects, emphasising collaborative teamwork. Highly motivated with proficiency in CAD/CAM, Solidworks, MicroStation Bentley, MATLAB, and ANSYS Fluent. Excelled in academic settings through effective communication and leadership. Committed to ongoing growth and eager to contribute innovative solutions in a challenging graduate program.

## EDUCATION

**Edith Cowan University**

**Joondalup, WA**

Bachelor of Engineering (Mechanical) Honours, **Cumulative GPA: 3.30/4.00** *November 2023*

**Areas of Interest:** Mechanical Design and Development, Fluid and Thermodynamics

## PROJECT EXPERIENCE

**CFD simulation of BTMS using ANSYS Fluent**

**Final Year Thesis**

- Designed an optimal **cooling system** for batteries using ANSYS Fluent.
- Utilised CFD simulation results to enhance the battery thermal management system.
- Iteratively determining optimal parameters for mass flow rate, heat flux, and nozzle diameter to maximise efficiency and performance.
- Reviewed areas for improvement and identified potential future enhancements.
- Project Steps:
  1. Design Geometry Modeling
  2. Mesh Generation
  3. Numerical Analysis
  4. Post-processing

**Cherry Picker Drive Wheel Gearbox Design**

**Advanced Mechanical Design**

- Analysing multiple gearbox concepts and finalising the design with a coaxially aligned configuration.
- **Selection of Gear Type:** Opted for spur gears due to benefits such as high-speed ratio, simplicity in design, ease of maintenance, and reliability.
- **Bearing Selection:** Choose a total of 8 bearings—2 tapered bearings to support an intermediate and 6 bearings to secure a shaft from other corners.
- **Shaft Sizing:** Concluded the design by selecting an appropriately sized shaft to align with the bearing holes and gearbox housing, completing the cherry-picker gearbox design.

**Warman Design and Build Competition**

**Mechanical Design and Development**

- Automated Prototype for Object Collection and Transportation via Cable
- **Project Planning and Task Assignment:** Responsible for planning the project and distributing tasks among team members.
- **SolidWorks Design:** Utilised SolidWorks for prototype design and prepared a comprehensive Product Design Specification.
- **3D Printing:** Employed 3D printing for the fabrication of critical and precise components.
- **Team Leadership:** Led the team by fostering regular communication and information sharing.
- **Theoretical Knowledge Application:** Applied theoretical understanding to achieve practical outcomes in the project.

## **WORK AND VOLUNTEERING EXPERIENCE**

### **Al-Syed Stone Crusher**

*Administration Manager*

**Sargodha, Pakistan**

*January 2017 – March 2019*

- Administered client and stakeholder interactions in an administrative role.
- Assisted in crafting precise fee estimates and quotes tailored to client requirements.
- Developed key Excel skills for efficient tracking of product and order records.

### **Helping Hands HH**

*Regional Managing Director*

**Sargodha, Pakistan**

*January 2018 – July 2019*

- Spearheaded an organisation dedicated to uplifting underprivileged children, facilitating educational opportunities, and fostering a sense of belonging in society.
- Served as a regional team leader, orchestrating major events recognised by local government authorities.
- Successfully raised AU\$ 5,000 in charitable funds to purchase essential food and medicine for districts in Punjab devastated by floods.

## **TRAINING AND PROFESSIONAL MEMBERSHIP**

- Engineers Australia Student Membership (EA ID: 8281695)
- Certificate II in Security Operation – October 2025
- Standard First Aid, CPR and AED training and certificate
- Construction White Card

## **SKILLS AND INTERESTS**

*Computer:* Microsoft Office (Word, Excel, and PowerPoint), AutoCAD, SolidWorks, ANSYS, MicroStation, MATLAB, Beginner Python and C language

*Interpersonal:* Receiving feedback, work ethic and honesty

*Project Management:* Scheduling and time management, Writing and reporting, Delegation, Critical thinking.

*Language:* Fluent in English, Urdu, and Punjabi

*Interests:* Teaching, Cricket, Chess and Travelling