

Syed Fareed Nizami Alam

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EDUCATION

SZABIST – Bachelor of Engineering (B.Eng) Mechatronics
GPA: 3.51/4.0

Pakistan
July 2024

TECHNICAL SKILLS

MERN Stack (Node.js, Express.js, MongoDB, React) | HTML | CSS (Bootstrap) | SOLIDWORKS | Python | Arduino | C++(basic) | SOLIDWORKS | MULTISIM | PROTEUS | Github

WORK EXPERIENCE

Trainee Engineer (Production Assembly) at Master Changan Motors

Pakistan
11/2024 – 03/2025

- Monitored and analyzed daily Defects Per Unit (DPU) and First-Time Through (FTT) metrics to ensure consistent achievement of performance targets.
- Spearheaded the defect management process for the Customer Satisfaction (CS) line, driving timely issue resolution and continuous process improvements.
- Provided dedicated engineering support on the chassis assembly line, specializing in the precise construction and quality assurance of vehicle underbodies to ensure structural integrity, optimal performance, and adherence to rigorous safety standards.

Intern at Sui Southern Gas Company

Pakistan
06/2022 - 07/2022

- Focused on observing and recording the production processes of gas meters.
- Acquired hands-on and theoretical insights into plant operations, encompassing both technical and managerial aspects.

Intern at Atlas Honda

Pakistan
10/2024 - 11/2024

- Conceptualized an overhead conveyor framework for frame body transport utilizing SOLIDWORKS.

ACADEMIC PROJECTS

Desktop Robotic Arm with Object Detection (FYP):

- Engineered a desktop-sized robotic arm with 4 degrees of freedom.
- Integrated camera system for object detection and precise manipulation.
- Programmed advanced object detection algorithms using python.
- Emphasized on energy efficiency and user-friendly operation.

Autonomous Ball-Shooting Robot:

- Built an autonomous robot powered by Arduino for target identification and accurate ball shooting.
- Employed ultrasonic sensors for precise distance measurement and target detection.
- Designed a custom ball-shooting mechanism incorporating servo motors for dynamic control of trajectory and shooting distance.

Soda Maker Machine:

- Engineered an open loop automated beverage dispensing system utilizing Arduino Mega, CNC Shield, Nema 17 Stepper Motor, and pumps for precise fluid control.
- Developed a stepper motor-driven rotary platform with a keypad interface, enabling user-defined volumetric dispensing with relay-actuated pump operation.
- Programmed multi-mode filling functions with error handling for overflow prevention, ensuring accurate and efficient drink mixing automation.

Chair Design and Analysis:

- Designed an ergonomic chair in SOLIDWORKS, optimizing its structure for maximum comfort and durability.
- Conducted finite element analysis (FEA) to test stress points, ensuring optimal load distribution and longevity.

Beach Cleaner Robot Mechanism:

- Designed a cleaner robot in AutoCAD for efficient debris collection and separation.
- Focused on environmentally sustainable mechanisms to enhance cleaning efficiency.

ACHIEVEMENT

Chancellor Honor Roll – SZABIST
Final Year Project Runner Up - SZABIST