



Saad Ahmed Rana

Date of birth: 28/12/2000 **Phone number:** (+358) 417408531

Email address: saadahmed.rana@aalto.fi **WhatsApp Messenger:** +358 41 7408531

LinkedIn: <https://www.linkedin.com/in/saadahmedrana/>

Website: <https://saadahmedrana.github.io/>

Home: Servin Maijan 6 C 44 , 02150 Espoo (Finland)

ABOUT ME

As a Master's student at Aalto University, and a software engineering fellow at Headstarter AI, I have collaborated with diverse industry teams and led multiple groups, applying a multidisciplinary approach to complex engineering projects. I have developed front-end and back-ends in React.js and Node.js and you can visit my website at <https://saadahmedrana.github.io/> to learn more about my projects.

DIGITAL SKILLS

Backend-Development / Node.js, React.js / HTML / Docker / CSS / Frontend - (React Js, React Native) / Typescript / Python / C# / Raspberry Pi and Arduino Programming / Git / ROS1 and ROS2

WORK EXPERIENCE

Software Engineering Fellow

Headstarter AI [08/08/2024 – Current]

- Sample Websites: <https://saadahmedrana.github.io/> | <https://pantry-tracker-saad.vercel.app/>
- Developed a personal portfolio website using ReactJS and optimized it building a strong grip on frontend design.
- Built 5 AI projects including an inventory management system with complete backend design in NodeJS.
- Used Firebase, hosted website using Vercel for the product, and hosted personal portfolio website on GitHub.

Product Designer for Self-Assembling Overhead Crane

KoneCranes [26/08/2024 – Current]

Country: Finland

- Working with Konecranes to ease the end-installation of overhead cranes for a sustainable future.
- The project has received a funding of 10,000 Euros for the Product Development Project (PDP).
- My role in the team is to develop an innovative solution and build the prototype for it.

Management Trainee Engineer

Fauji Fertilizer Company Ltd. [16/08/2023 – 16/04/2024]

Management of Daily Jobs: As an area engineer, I planned and executed daily maintenance jobs at Machinery-Urea unit.

Practical Training on Equipment: I actively took part in a comprehensive training on design, working and maintenance of pumps, compressors, turbines, valves, heat exchanges, reactor vessels and refractories.

Quality Assurance: I highlighted key-areas for moving towards Six-Sigma and brought down the rejection ratio of urea prills from 8% to 6%.

Research Assistant

Pakistan Institute of Engineering & Applied Sciences [01/06/2020 – 28/06/2023]

- Developed a human-friendly engineering analysis software for and provided support for the client.
- Designed and tested the mechanical shaker for research in vibrations lab.
- Provided support with teaching and exercise sessions for the course in Renewable Energy Resources.

PROJECTS

[10/01/2022 – 07/09/2022]

Inventory Management System

- Developed a website to manage the inventory using NodeJS and Material UI and hosted the website using Vercel.
- GPT AI was used to classify images and update the firebase.

[01/06/2022 – 28/06/2023]

Para Thrust App

- MATLAB application with a human-friendly GUI that lets the user design a turbojet engine of single-spool configuration.
- A UAV was designed using this app, following NASA's Systems Engineering Handbook, and published as a thesis.
- The client is currently using the software at the industry.

[15/06/2024 – Current]

Voice Activated Robot using ROS2 and Alexa Skills Kit SDK

- Built a URDF voice-activated robot model for domestic use using ROS2 in Linux and integrated it with Amazon Alexa.
- Executed Path planning in the MoveIT environment using cartesian coordinates while computing in quaternion coordinates.

EDUCATION AND TRAINING

Master of Science in Mechanical Engineering

Aalto University [26/08/2024 – Current]

City: Espoo | Country: Finland | Final grade: 5.0/5.0

- Major: Mechatronics | Minor: Product Development
- Development of Self-Assembling Crane with Konecranes for innovation in industry.
- Maintained a perfect GPA of 5.0 out of 5.0 during the first term and secured Finland Scholarship.

BS Mechanical Engineering

Pakistan Institute of Engineering and Applied Sciences [17/09/2019 – 27/06/2023]

Address: Lehtar Road, Nilore, Islamabad, 45650

- Secured Research Fellowship and received a Certificate of Merit for an outstanding CGPA of 3.77/4.0.
- Helped 500+ students with their fees by leading the forum Muaawin for educating the less privileged students.
- Developed a MATLAB Application and served as the president of the American Society for Mechanical Engineers-PIEAS.

EXTRA CURRICULARS

[09/09/2022 – 28/06/2023]

1st Place in Regionals of Hult Prize

- PROBLEM SOLVED: Collection of plastic waste from industries and households targeting SDG 12 of the UN.
- Built an app and a pyrolysis plant to enable the user to sell their plastic waste which is recycled in the plant.
- As a team lead, I presented the prototypes at the Hult Prize International Dhaka Summit held in May 2022.

Link: https://drive.google.com/drive/folders/1LLbDs4iAED0RcMbFeJNWyZWfduLMmAbT?usp=drive_link

Duke of Edinburgh International Award ~

- Led a dynamic team of 60 people in a program of learning and growth for 6 months and achieved a bronze-level award.
- Raised funding for 20 computers at a local school for the underprivileged and taught them basic Python.
- Provided the team with basketball and guitar playing lessons bi-weekly.