# Amaan Ala Ud Din

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**Software Engineer**

As a budding engineer, I love exploring the depths of technology. My background in engineering helps me tackle challenges and think outside the box. I'm all about improving software for users while aligning with team objectives. Always learning and eager to contribute more!

## SKILLS

Python, ReactJS, Node.js, C#, MySQL, PostgreSQL, MongoDB, OP CUA, Websockets, REST, Git Version Control, GitBash, HTML 5, CSS, Tailwind, Material UI

## WORK EXPERIENCE

**Alascom Robotics** • Milan                                      09/2023 - Present
**Software Engineer**

- **Raccorderie Metalliche SpA – Multi-Line Production Optimization**
  Helped develop a system that optimizes the output flow from multiple production lines, reducing space and equipment costs. Built ReactJS operator dashboards and C# middleware to control and validate box routing with PLCs. Used priority queues and multithreading to enhance throughput and responsiveness.

- **Baker Hughes – PalletSwap Automation**
  Developed a full-stack solution for warehouse pallet swaps using AMRs. Built a ReactJS frontend and ASP.NET backend for handling robot mission assignments and real-time updates based on sensor

- **Latteria Sociale Valtellina – Cheese Aging Warehouse Automation**
  Contributed to automating dairy factory processes using ASP.NET (C#) for mission planning of autonomous robots handling cheese washing, packaging, and storage. Integrated RabbitMQ for asynchronous communication and built a PostgreSQL-backed warehouse management system. Implemented a real-time alert system using WebSockets for factory issue notifications.

- **Deloitte Italia – ArmonAI Smart Assistant**
  Contributed to fine-tuning LLMs for a smart assistant tool, enabling control over devices like LED monitors and climate systems. Worked with Hugging Face Transformers, PyTorch, and Google Vertex AI to align the assistant with specific user needs.

- **Sun Chemical SpA – Warehouse Order Flow Automation**
  Built a ReactJS + Tailwind UI for managing manufacturing orders and coordinating a fleet of mobile robots. Supported integration with SAP and designed backend microservices (Python Flask) for data analytics, Excel exports, and monitoring.

- **Retal SpA – AMR Forklift Mission Control**
  Contributed to a full-stack system for managing autonomous forklift tasks. Worked on the ReactJS + Tailwind UI frontend and Flask backend to support mission creation, scheduling, and status tracking in real time.

**Bosch Italia** • EdiM SpA, Monza e Brianza, Italia                    04/2023 - 09/2023
**QMM Data Analyst**

- Extracted, cleaned, and transformed data using SQL from MES systems for accurate analysis.
- Presented quality data to departments across EU to facilitate informed decision-making.
- Developed reports and visualizations using Power BI and Excel.
- Supported manager in reducing failure costs through data analysis and verification.

## EDUCATION

**Master's degree in Strategic Engineering Technology**
**Università degli Studi di Genova** • Genova , Italy                    06/2021 - Present

Master's Thesis: Enhancing Manufacturing Processes
Proposed an AI based system for efficient defect detection in automotive manufacturing, merging AI speed with traditional accuracy.
Course Details: https://corsi.unige.it/en/corsi/10728
• Artificial Intelligence and Machine Learning
• Computational Intelligence and Decision-Making
• Autonomous Agents in Games - Reinforcement Learning
• Operation Research for Strategic Decisions: Models, Methods
• Advanced Methods of Monitoring and Design of Systems
• Modeling And Design of Complex Systems
• Mathematical Modeling and Continuous/Discrete Simulation

**Bachelor of Engineering - BS(EE) in Electrical Engineering**
**National University of Sciences and Technology (NUST)** • Islamabad , Pakistan       09/2015 - 09/2019

Majors : Machine Learning-Industrial Control & Automation-Power System Analysis & Design

**Cambridge A-levels in Sciences**
**Lahore Grammar School JT** • Pakistan • GPA: 3A's & 2B's                 09/2013 - 08/2015

Physics-Chemistry-Mathematics-Further Mathematics-Applied ICT

**Cambridge O-Levels in Sciences**
**Customs Public School** • Pakistan • GPA: 7 A's 2 B's                    06/2010 - 08/2013

## PROJECTS

**Home Automation Via IOT's and Mobile App**
National University of Sciences and Technology (NUST)

Final year Project of BS(EE)

**Facility Location Optimization - Operations Research**
Univeristy of Genova

Strategic Allocation of Poste Italiane Deposits Using Heuristic and Genetic Algorithm Approaches.

## CERTIFICATIONS

**IELTS C1**
Cambridge University