



# Muhammad Talal Qaiser

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## ● OBJECTIVE

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A student of master's in Simulation and Visualization specializing in Machine Learning. With a strong foundation in Python, knowledge of Java, JavaScript, HTML, CSS, and the basics of C++, I am eager to showcase my skills and projects in this exciting and rapidly evolving field. I have honed my skills in developing and implementing various machine learning and deep learning academic projects.

## ● EDUCATION

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23 AUG 2021 – Current – Ålesund, Norway

### **MASTER'S – Norwegian University of Science and Technology NTNU**

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◦ Simulation and Visualization (Grade B)

1 SEP 2014 – 1 SEP 2018 – Islamabad, Pakistan

### **BACHELOR'S – National University of Science and Technology NUST**

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◦ Mechanical Engineering (CGPA 3.24/4)

## ● WORK EXPERIENCE

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25 June 2022 – 25 August 2022 – Ålesund, Norway

### **Student Research Assistant (Development of Digital Twin Prototype for Wind Farms) – NTNU**

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- Developed a Digital Twin of the Hywind Tampen offshore wind farm on **Unity**, enabling the simulation of various scenarios by varying wind speed and direction to analyze their effect on power production.
- Estimated power production by analyzing historical weather conditions at the original site and using the digital twin for modeling.
- Wrote and presented a paper titled "Digital Twin-Driven Energy Modelling of Hywind Tampen Floating Wind Farm" based on the simulation results of power generation at the International Conference on Renewable Energy and Conservation (ICREC 2022).

6 SEP 2018 – 10 AUG 2021 – Lahore, Pakistan

### **ASSISTANT MANAGER (Special Projects Department) – Style Textile**

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- Led a team, collaborating on a project with the experts of Toyota Engineering Corporation on a business improvement project for performance enhancement and introducing automation and robotics in different industrial applications.
- Worked with IT Team on the development of multiple dashboards and KPIs for performance evaluation using the business intelligence tool; Qlik.
- Led BRT (Barrier Removal Team) meetings on weekly basis to monitor the progress of various departments.
- Analyzed data using SQL queries and Excel to provide recommendations for problem-solving.
- Led a project to reduce inventory in a fabric store by analyzing historical data and presenting recommendations to management, resulting in controllable inventory. Implemented techniques such as wastage limits and buffers in other projects to improve departmental efficiency.
- Collaborated with IT team to ensure data accuracy and completeness.
- Communicated insights and recommendations to cross-functional teams and management.
- Utilized statistical analysis techniques such as mean, median, and quartiles to support decision-making.
- Led a team to develop a preventive maintenance schedule for dyeing machines based on historical breakdown data.

## INTERN – Engro Foods

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- Worked in the cold chain department for over 6 weeks, responsible for managing records of trikes and regularly updating documents.
- Handled complaints from three regions in cold storage and ensured timely resolution of issues.
- Managed inventory of cold storage for ice cream on the ERP (Enterprise Resource Planning) system to ensure optimal levels and prevent stockouts.
- Developed and implemented process improvements to streamline inventory management and reduce waste.
- Collaborated with cross-functional teams to improve communication and enhance overall efficiency in the cold chain department.

## ● ACADEMIC PROJECTS

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- **Prediction of Turbine Running Failures**  
Prepared datasets using sensor log files of turbines against failure timeline using Pandas data frame, handled missing values and predicted turbines' running failure 60 mins in advance using MLP with more than 90% accuracy.
- **ML and DL Projects**  
Prediction of suicide cases using linear regression and MLP, reading and predicting digits from the MNIST dataset, and image recognition using AlexNet and VGG16 are some of the projects I did in Machine Learning and Deep Learning.
- **Unity Projects**  
Designed a city simulator in Unity, adding buildings, roads, and parks with textures. Simulated the sun for day and night change. Designed a 3D model of Ålesund using Mapbox in UNITY. Simulated the movement of the sun for the day and night animation, created a graphical user interface to insert and delete light devices, and computed a heatmap to encode light variation.
- **Forecasting Covid Cases**  
Forecasted the data on total cases and total deaths due to covid on time series using sklearn-linear model regression and visualize it on a platform using dash and plotly.
- **Webpage**  
Designed an interactive webpage, where we came up with the business idea of renting a boat using Js, HTML, and CSS. This page included input fields, maps, image slide shows, and interactive links.
- **Design and Fabrication of Rice Paddy Planter**  
Designed and Fabricated a Rice Paddy Planter. Designed the mechanism of a rice paddy planter as a final-year project in my bachelor's program. Applied multiple stress and strain-based mathematical models. Performed structural and vibrational analysis of its structure and components before fabricating its prototype.

## ● SKILLS

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Machine Learning/Deep Learning | Python (Dash, Plotly, Pandas, TensorFlow, Sklearn) | Java | C++ | Js | HTML | CSS | Microsoft Office | Minitab | Blender | UNITY

## ● LANGUAGE

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English

## ● HONOURS AND AWARDS

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- Winning trophy for maintaining students' dining facility standards and their academic performances at NUST.
- Medal of excellence for successfully arranging the biggest fundraising event (EME Olympiad) at NUST
- 100% merit-based scholarship in High School.
- Worked as CJUO (Company Junior Under Officer) by university administration (student appointment holder), responsible for student dine-in facility and academic activities.
- Elected as a Convener at EME Olympiad'18 through student elections. I was responsible for arranging the biggest event at the university.
- Worked as Vice President at EME Media Club (Media Society of University), responsible for media coverage of all university administration's and students' official events.