Muhammad Talal Qaiser

Skills: Automation, Cloud, AWS, Python, C#, SQL, Git
Interest: Software Engineer, Machine Learning, Data Science

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Education

Masters in ICT and Natural Science
Norwegian University of Science and Technology (NTNU), Norway
Aug 21 – Present (Grade: B)

Bachelor in Mechanical Engineering
National University of Science and Technology, Pakistan
Sep 14 – Sep 18 (CGPA 3.24/4)

Experience

Software Engineer - *Nov (Aug 23 – Present)*
• Deploy and configure new instances of existing simulation systems, and set up new simulators within cloud environments using AWS while also optimizing simulation performance
• Manage user access and provide ongoing support to system users for each simulator instance. This involves troubleshooting technical issues and ensuring smooth operations
• Handle and prioritize support requests from users and AWS service tickets. For issue tracking, Jira is used for project management, time tracking, and sprint management
• Deploy PLC software and integrate it with simulation software using Simatic, Tia, and Twincat
• Configure and optimize networks to facilitate proper communication between different simulation instances, ensuring seamless operation and data exchange between systems.
Skills: *AWS, Cloud, Linux, PLC, Networking, Jira, Ansible, Terraform, Github, Gitlab, C#, Python*

Student Research Assistant - *NTNU (Jun 22 – Aug 22)*
Developed a Digital Twin of Hywind Tampen wind farm, enabling the simulation of various scenarios and estimated power production by analyzing based on historical weather conditions.
Skills: *Unity, Python, C#, UI, Data Analysis*

Assistant Manager - *Style Textile (Sep 18 – Aug 21)*
• 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 to develop multiple dashboards and KPIs for performance evaluation using Qlik.
• Analyzed data using SQL queries provided by the IT team and Microsoft Excel to provide recommendations for problem-solving.
• 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 dying machines based on historical breakdown data.
Skills: *Data Analysis, SQL, Microsoft Excel, ERP, Minitab*

Intern – *Friesland Campina (Jun 16 – Oct 16)*
Managed records of trikes and inventory of cold storage on the ERP system to ensure optimal levels and prevent stockouts. Collaborated with cross-functional teams to improve communication and enhance overall efficiency in the cold chain department.
Skills: *ERP, Inventory Management, Microsoft Excel*

Projects

• **Master's Thesis: Predicted Turbine running failures** by creating and curating datasets from sensor log files. Successfully employed machine learning and deep learning models to accurately predict turbine failures up to 60 minutes in advance, achieving over 90% accuracy.
Skills: *Python, Pandas, NumPy, TensorFlow, PyTorch, MLP, LSTM, CNN, scikit-learn,*

• **Machine Learning and Deep Learning** projects, including predicting suicide cases, reading and predicting digits, and implementing image recognition models. Forecasted Covid cases and deaths on time series and visualize it using dash and plotly.
Skills: *Python, Image Recognition, Linear Regression, MLP, AlexNet, VGG16, Transfer learning, Dash, Plotly*

• **Designed a city simulator** with buildings, roads, and parks. Simulated day and night. Designed a 3D model of Ålesund using Mapbox in UNITY, created a graphical user interface to insert and delete light devices, and computed a heatmap to encode light variation.
Skills: *Unity, Mapbox, UI, Simulation, Heatmap*

• **Developed an interactive web page** for a boat rental business concept. Implemented features such as input fields, map integration, image slide shows, and interactive links to enhance user experience.
Skills: *JavaScript, HTML, CSS, Webpage designing, Webpage development*

• **Bachelor's Thesis: Designed and fabricated a rice paddy planter**. The mechanism was created using stress and strain-based mathematical models. Conducted structural and vibrational analyses of its components to ensure their stability and durability. Developed a fully functional prototype for implementation in the agriculture industry.
Skills: *Solid works, Ansys, Stress and Strain Analysis*

Honors and Awards

• Paper titled "Digital Twin-Driven Energy Modelling of Hywind Tampen Floating Wind Farm" accepted and presented at ICREC 22.
• Medal of excellence for arranging EME Olympiad'18 for raising funds to sponsor needy students