

Abubakar Rashid

(979) 326 8820

abubakarrashid816@gmail.com | abubakarrashid@tamu.edu

College Station, TX, 77840

Professional Summary

A self-assured professional with an infectious gusto for Engineering, Energy & Technology. A highly dynamic individual, adept at data-driven system optimizations using engineering solutions.

Education

Master of Science Mechanical Engineering	Texas A&M University - College Station, TX. 2022 – Present GPA: 3.75/4.00
Bachelor of Science Mechanical Engineering	Ghulam Ishaq Khan Institute of Engineering Science & Technology 2012-2016 Honors: Cum laude

Work Experience

Turbomachinery Lab. Texas A&M University May 2022 – Present	Graduate Research Assistant As part of the performance and reliability group, my work is focused on applied research to advance the state of the art of rotating equipment. Key projects include: <ul style="list-style-type: none">Working with Baker Hughes to develop gas bearings for megawatt-class machines. The project includes designing gas bearings and the development of a high-speed testing rig for these bearings that can operate up to 40,000 RPM.Conducting experimental testing to validate an innovative design for minimizing thrust forces in centrifugal pumps.Collaborated with Schlumberger's artificial lift division to develop a predictive tool for rotordynamics analysis of Electrical Submersible Pumps (ESPs), aiming to boost reliability by at least 20%. This project encompassed numerical simulations, digital twin creation, and model validation through experimental data benchmarking.
Guardian Analytics Mar 2020 – Dec 2021	Founder & Chief Technology Officer: Guardian Analytics was a tech start-up that provided Operations and Asset Performance Management (OPM/APM) solutions to help industries optimize their operations and increase process efficiencies. This was done by building Digital Twins of their plant to simulate the operations and performance parameters using data analytics. As the founder of this venture, I led the company to achieve: <ul style="list-style-type: none">Developing an innovative and effective solution for cooling water circuits.Product deployed at two industrial sites and achieve the guaranteed performance results. Garnered the attention of investors and was successfully acquired by a publicly listed company.
Engro Polymers & Chemicals Limited Apr 2021 – Dec 2021 Jul 2016 - Jun 2019	Rotating Equipment Engineer Overseeing the Power plant & Utility division, my main responsibilities encompassed: <ul style="list-style-type: none">Monitoring the power plant performance and efficiency using parametric data & vibrations analysisDeveloping long-term & short-term plans to improve the equipment reliability factor of the plant.Development & implementation of PM plans to improve plant performance.Responding to breakdowns by faults diagnosis through a well-equipped RCA.Spearheading the training for engineering and technical staff.Ensuring compliance with health and safety standards.As IMS coordinator, I was responsible for preparing and upkeep the department's procedures for IMS (ISO-9001, ISO-14001, OHSAS-18001) Certification. Lead Analyst – Engineering Solutions As the Lead Technical Analyst, I was reporting to Vice President -Supply Chain to develop a strategic framework for sustainable business operations. Main assignments include: <ul style="list-style-type: none">Developing a strategy for shifting to alternate cleaner fuels for the power generation requirements of the group, covering the technical and operational aspects.Implementing the concept of Category Management across the board & developing the policy framework for individual categories.Lead exploratory data analysis project and developed a dashboard for the management committee to have a better insight into the annual operating expense budget of around USD 150 million.Coordinate closely with category managers to monitor their performance against agreed targets. This includes the KPI engine development for real-time tracking of defined objectives.
VPL (Volvo Pakistan Ltd) Jul 2019 – Mar 2021	Senior Product & Application Engineer: As design and application lead, my main responsibilities include: <ul style="list-style-type: none">Work with Federal & Provincial government organizations on sustainable mass-transit projects, jointly funded by Government and Asian Development Bank (ADB).Developing the operational model for the mass-transit projects to ensure maximum efficiency by using analytical tools on the data gathered from routine operations of similar projects.To work in close connection with the principal design team to make appropriate changes in product design and modify the existing product to improve system performance.Develop and spearhead the technical training of the teams deployed on the projects.Conducting internal trials of products for verification and compliance with QA/QC standards.
Engro Fertilizers Ltd. Jul 2015 — Sept 2015	Intern - Machinery Maintenance Developed a complete Overhaul Plan for the 16MW Nuovo Pignone steam turbine installed on the ammonia plant with a level-III schedule & timeline.

Key Projects

- Development of “Guardian 1.0: Component-wise efficiency monitoring software for Gas Turbines” to measure, record, and analyze the key outputs and performance of individual components of a gas turbine to ensure highly efficient & reliable operation of gas turbines.
- Project Engineering: As a part of the EPEX-195 project (USD 10 million), I was responsible for the project’s mechanical & civil works starting from Isometrics to field execution on the ground in a timely manner, ensuring compliance with all HSE & quality standards.
- Power Augmentation Project: Successfully conducted a comprehensive design study with HITACHI & PowerPhase to enhance the power generation capacity by 07 MW of the existing 02 units of H-25 gas turbine by dry air injection in compressor discharge casing.
- Design & Fabrication of Scale Model Industrial grade CNC Turning Machine.

Research Publications

- Author of Research Paper titled **“Diagnosis of Intermittent High Vibration Peaks in Industrial Gas Turbine using Advanced Vibrations Analysis”** presented at the “21st International Conference on Turbomachinery and Fluid Dynamics 2019” held in New York, USA. The paper was then shortlisted and gets published in “International Journal of Mechanical and Mechatronics Engineering” Vol:13, No:9, 2019.
- Author of Research Paper titled **“Design & Fabrication of Scale Model CNC Turning Machine”** (ISAM2017-189) presented at “14th International Symposium on Advanced Materials” held in 2017 in Islamabad, Pakistan.
- Author of Research Paper titled **“Applications of UAV in Daily Life”** (AIAA 2016-1895) presented at “SCITECH-2016” organized by AIAA in San Diego, USA.

Skills & Certifications

- MATLAB | SOLIDWORKS | XLTRC2 | ANSYS | ADRE SXP | SAP | Maximo | Power BI | Microsoft Projects | Microsoft Office
- Rotordynamics and Vibrations Analysis of rotating equipment.
- Power plant Performance Simulation and Efficiency Management.
- Gas Turbine Power Augmentation.
- Adept at data-driven System optimization using data analytics.
- Certified Process Safety & Risk Management (PSRM) professional.
- Project Management & Planning Certification from Harvard Manage Mentor.

Extracurricular Achievements

- Vice-President Pro-bono Consulting at Texas A&M University Graduate Consulting Club (TAMUGC) for the term 2022-23.
- President of “ASHRAE - GIKI Chapter” for the term 2015-16.
- Captain of “Team INVICTUS”, participating in unmanned aerial vehicles (UAV) competitions around the globe.
- Co-Founder of “Helping Hands Organization”, an organization that aims to help underprivileged students to continue their education.
- Flagbearer of Pakistan in “International Design Build & Fly” for two successive years 2015 & 2016, held in the USA.

Honors & Awards

- Corporate Excellence Award 2017 – Issued by Engro Polymers & Chemicals Limited.
- Corporate Excellence Award 2018 – Issued by Engro Polymers & Chemicals Limited.
- First Position in Senior Year Design Project (2016) – Issued by Ghulam Ishaq Khan Institute of Science & Technology.
- Dean’s Honor Award (2016) - Issued by Ghulam Ishaq Khan Institute of Science & Technology.
- Winner of Sustainable Design Competition (2015) – Issued by American Society of Mechanical Engineering.