

Muhammad Naeem Khan

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Objective

- To work with a reputed institute as a Lecturer, that will provide an opportunity for developing my teaching and administrative skills to guide students for growing their career.
- To become part of high-level research groups for my professional and research development improvement so that I can play a better role and utilize my engineering skills in that field.

Education

International Islamic University Islamabad (IIUI)

Islamabad, Pakistan

(Fall- 2019 - Present)

- PhD in Mechanical Engineering
- (In Progress)

International Islamic University Islamabad (IIUI)

Islamabad, Pakistan

(2016-2018)

- MS in Mechanical Engineering
- Title of Thesis: Fault Detection of Bearing through Microphone.
- CGPA (3.55/4.0), 1st Division.

Sarhad University of Science & Technology

Peshawar, Pakistan

(2011-2015)

- BS in Mechanical Engineering
- Title of Thesis: Modal Analysis of Turbine Blade of Jet Engine.
- 1st Division.

Technical Skills

- **Programming Languages:** LaTeX (Paper writing skill only)
- **Software's:** Pro-Engineer, Solid Works, MATLAB, ANSYS Workbench, AutoCAD, MS-Office.
- **Language:** Good Spoken and Written English (**IELTS Score: 6.5/9.0**), Urdu and Pashto.
- **Personal traits:** Analytical thinking ability, Good communication skills, Dedication and motivation for work, Friendly, Cooperative and multi-tasking.

Professional Training

- Worked as Trainee Mechanical Engineer in (**FORTE**) *Frontier Ceramics Limited Peshawar*.
Peshawar, Pakistan
(2 Months)(10th July – 9th September, 2014)
- Worked as Trainee Mechanical Engineer in (**OGDCL**) *Oil and Gas Development Company Limited, Pakistan*.
K. P. K, Pakistan
(5 Months)(1st Oct 2015 – 1st Feb2016)

Teaching Experience

- Presently, working as a **Lab Engineer (BPS-17)**, DME (Department of Mechanical Engineering), IIUI (International Islamic University Islamabad).
Islamabad, Pakistan
(Dec 2017 – Present till date)
 - Design and conduct labs on Outcome Based Education system(OBE) as per departmental requirements
 - Preparation and grading of laboratory and other exams.
 - Operation, maintenance and inventory management of lab equipment and consumables
 - Selection and upgrading of lab equipment as required
 - Instructs and demonstrates to students the proper techniques in lab safety, and use and operation of lab equipment.
 - Assists faculty and graduate students in conducting research experiments, and help undergraduate students in doing their course and final-year projects.
 - Performs other related duties such as maintaining and updating an equipment catalogs, manuals, data books, protocols of experiments.
 - Any other duty assigned by the department.
- Worked as **Visiting Lecturer for BS. Technology** in DME(Department of Mechanical Engineering), Iqra College for Diploma & BS. Technology, IIUI. Islamabad, Pakistan.
(June 2016 - July 2017)
 - In addition to teaching, subject planning, preparation and research, advice and guide students.
 - Invigilating examinations.
 - To participate in faculty and administrative meetings.
- **Labs Conducted & Theory Subjects:**
Internal Combustion Lab, Engineering Drawing & Graphics Lab, Workshop Practice Lab, AutoCAD Lab, Control & Instrumentation Lab, Manufacturing Process Lab, Applied Physics Lab, Applied Thermodynamics Lab, Production Planning & Control(Theory), Material Handling(Theory).

- **Home Tutor:** Peshawar & Islamabad, Pakistan
- Taught both 'O' & 'A' Level Students. (2013 – 2018)
 - Majority of the students were Foreigners (UAE, Indonesians).
 - Created worksheets & Practice Quizzes to help students to prepare for Exam.
 - Succeeded in helping students raise their grades.
 - Interacted with other teachers to develop curriculum and practice tests for students.

Management Experience

- As a **Hostel Warden (Resident House Tutor (R.H.T))** in Male Hostels International Islamic University Islamabad. (2018 – Present till date)
- Supervise and solve the hostel & students issues.
 - Responsible for maintaining discipline and law and order in the hostel and to use discretion and judgment in all cases requiring immediate attention and action.
 - Direct supervision of the Hostel Employees. Responsible for the efficiency of the services of all hostel employees.
 - To Supervise and guide the Mess Employees to make best quality of food for hostel boarders.
 - Maintain a proper account of the hostel dues and food accounts.
 - Scrutinize the contractors' bills for payment.
 - Organize social and cultural activities in the hostel.

MS Thesis Title

- **Fault Detection of Bearing through Microphone.**
- The fault diagnosis based on Vibration as well as Acoustic Emission (AE) in rotating machinery has obtained countless concentration in research. A number of algorithms related to signal processing were developed and utilized intelligently in order to discover fault in bearings in addition to gears. In order to detect signals, the sensors for instance accelerometer are attached on the system under observation. The placement of sensors upon extremely near the rotating machinery becomes impossible in case of difficult machinery or caused by high temperature plus humidity, however its installation distant from the device might corrupt the chosen signal with other undesirable ones. As a result, sensing the signals distantly will considerably decrease the installation and maintenance too of the fault recognition system.
- **Project:**
- Worked on sound signal based fault detection and classification in rotating bearings. Audible sound of machine under test is captured using a single microphone and different statistical, frequency and time-frequency features were extracted. The selected features were then analyzed using different machine learning techniques like K Nearest Neighbour (KNN) classifier, Support Vector Machine (SVM), Kernel Liner Discriminant Analysis (KLDA) and Sparse Discriminant Analysis (SDA).

Trainings& Workshops:

- CPD Workshop on "Management & Leadership in Engineering Organization/Institutions to enhance Productivity/Output ", certificate of participation at Department of Mechanical Engineering FET, IIUI on 21 Feb, 2020. , Organizer PEC and FET, IIUI.
- CPD Workshop on "Enhance Energy Recovery" certificate of participation at Department of Mechanical Engineering, FET, IIUI on 13th September 2019. Organizer PEC and FET, IIUI.
- CPD 02 Days workshop on "Outcome Based Education (OBE) system" from 3rd and 4th December 2017 at IIUI as a participant. Organizer PEC and FET, IIUI.
- CPD Workshop on "application of primavera" certificate of participation at department of mechanical engineering, FET, IIUI on 2nd January 2017, Organizer PEC and FET, IIUI.
- CPD Workshop on "CPD Frame work for Professional Development of Engineers" certificate of participation at Sarhad University of Science and Information (SUIT), Peshawar on 07th April 2014, Organizer PEC and SUIT, Peshawar.
- Workshop on "LATEX" certificate of participation at department of Electrical engineering, Muslim Youth University, on 23rd August 2018, Organizer Muslim Youth University.

Publication:

- I. Altaf, M. Uzair, **M. Naeem**, M., Ahmad, A., Badshah, S., Shah, J. A., & Anjum, A. (2019). Automatic and Efficient Fault Detection in Rotating Machinery using Sound Signals. *Acoustics Australia*, 47(2), 125-139.