Gulzar Ali

+923105955186 | gulzarali05@gmail.com | linkedin.com/in/G-Ali-engr | github.com/gulzarali19

EDUCATION

National University of Sciences and Technology (NUST)　　　　　　Islamabad, Pakistan
Master of Science in Computational Sciences and Engineering　　　　　*Jan. 2023 – Present*

- CGPA: 3.25
- **Electives:**
  * Advanced Partial Differential Equations
  * Applied Machine Learning
  * CFD-I & CFD-II
- **Core Courses:**
  * Computing for Computational Sciences and Engineering
  * Computational Linear Algebra
  * Applied Mathematics
  * Data Analyses and Statistics

University of Engineering and Technology (UET)　　　　　　　　　Lahore, Pakistan
Bachelor of Science in Mechanical Engineering　　　　　　　　　*Oct. 2018 – Aug. 2022*

- **Electives:**
  * Computational Fluid Dynamics
  * Finite Element Analysis

EXPERIENCE

Tutor　　　　　　　　　　　　　　　　　　　　　　　　Dec 2020 – Present
Remote Freelancer

- Teach and assist students with their Projects
- CFD Simulations on COMSOL and ANSYS
- FEA Methods and Linear Algebra

Parallel Computing Workshop Support Specialist　　　　　Jun. 2024 – Aug. 2024
NUST　　　　　　　　　　　　　　　　　　　　　　　　*Islamabad, Pakistan*

- Develop ANSYS cases for Aerodynamics Simulations
- Develop parallel running codes for Convection Diffusion Equations in Python for testing
- Technical Support in Conducting Workshop

Mechanical Engineering Intern　　　　　　　　　　　　Dec. 2022 – Jan. 2023
AJC Group of Companies　　　　　　　　　　　　　　　　*Lahore, Pakistan*

- Fabrication, Maintenance, Quality Control, Project Planning

PROJECTS

Deep Learning-Enhanced CFD Approach in Data Centers | *ANSYS, Python, Pytorch*　　May 2024 – Present
Master's Thesis, NUST

- Developed a 3D model of a data center and server racks for airflow simulation.
- Conducted CFD simulations to generate a dataset for training.
- Trained models on the generated dataset to predict hotspot temperatures within the racks.
- Developed an application to estimate temperature based on given parameters.

Simulation of Fluid Flow in Porous Media | *COMSOL Multiphysics*　　Dec. 2017 – Aug. 2018
Bachelor's Thesis, UET

- Developed a 2D model of filter paper (porous medium) used in Time Temperature Indicators.
- Simulated the wicking process under Darcy's Law in porous media.
- Analyzed the flow rate for different shapes and compositions of porous media.

Simulation of 2D Advection-Diffusion Equation Using MPI in Python | *Python, MPI*

Parallel Computing Workshop 2024, DenseFusion

- Developed a 2D model of filter paper (porous medium) used in Time Temperature Indicators.
- Simulated water flow through the porous media via the wicking process under Darcy's Law.
- Analyzed the flow rate for different shapes and compositions of porous media.

TECHNICAL SKILLS

Languages: Python, C/C++
Software's and Operating Systems: ANSYS, COMSOL Multiphysics, Slack, OpenFOAM, Linux
Developer Tools: Git, Docker, VS Code, Visual Studio, PyCharm
Libraries: Pandas, NumPy, Matplotlib, Pytorch, MPI for python, keras, Pytorch

CERTIFICATIONS

- **The Data Science Boot Camp 2022**   Sept. 2022
  Machine Learning, Data Visualization, Statistical Analyses

- **Foundations of Project Management**   Sept. 2022
  Project LifeCycle, Risk Management, Agile Methodology

- **How To Write and Publish a Scientific Paper**   Feb. 2022
  Literature Review, Manuscript Preparation, Peer Review Process

- **IELTS**   Overall Band: 6.5
  Academic IELTS.