FAIQ ZAFFAR SHAH

Thapar InstituteofEngineering&Technology◇ Patiala,Punjab, India

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ABOUT ME

I am a Mechanical and specialised thermal engineering undergraduate at Thapar Institute of Engineering and Technology with hands on experience in research, simulation, and industrial engineering environments. I have worked as a Research Assistant on heat transfer enhancement using graphene nanofluids and completed internships at National Hydel Power Corporation of India and Simulations Lab India as a Computer Aided Engineer. I am proficient in ANSYS, MATLAB, AutoCAD, and mechanical system analysis, with strong exposure to thermal systems, hydropower operations, and simulation driven design. I am motivated to apply engineering principles to real world energy and mechanical systems while continuously strengthening my technical and practical skills.

EDUCATION

➢ **Thapar Institute of Engineering & Technology** — *Patiala, Punjab, India*
Bachelor of Engineering (B.E.), Mechanical Engineering — 2023 - Present

➢ **Saint Joseph's Higher Secondary School** — *Baramulla, Kashmir, India*
High school, (Class XII) JKBOSE — 2007 - 2021

WORK/RESEARCH EXPERIENCE

➢ **Ministry of Road Transport and Highways** — *Jammu and Kashmir, India*

Mechanical Engineering Intern — *Jan 2026 – Jan 2026*

Supervisor on NH01 & NH444, supervising operations and maintenance of DEMAG TEREX and ZOOM LION girder launching cranes for highway bridge projects.

➢ **Thapar Institute of Engineering & Technology** — *Patiala, Punjab, India*

Research Assistant, Supervisor: Dr. Kundan Lal — *October 2024* - Present

I am currently working on heat transfer enhancement using graphene nanofluids, focusing on experimental and analytical investigation of conduction and convection heat transfer mechanisms. My work involves evaluating thermal performance improvements and optimizing heat transfer behavior in engineered thermal systems.

➢ **National Hydel Power Corporation of India (NHPC)** — *Uri, Baramulla, Kashmir, India*

Mechanical Engineering Intern — *July 2025 - August 2025*

During my internship at National Hydel Power Corporation of India, I gained exposure to large scale hydropower plant operations and energy generation systems. I studied turbine operation, plant workflows, auxiliary systems, and safety protocols, which helped me develop a strong understanding of real world power plant engineering practices.

➢ **Simulations Lab India** — *Remote*

Computer Aided Engineer — *August 2024 - October 2024*

I worked on mechanical and thermal simulations using ANSYS, where I was involved in geometry preparation, meshing, application of boundary conditions, and interpretation of results. This experience strengthened my understanding of simulation driven design and engineering analysis.

CERTIFICATIONS & TRAINING

- *IAEA Safety Standards for Nuclear Installations*
- *Heat Exchanger Activity (Ongoing)*
- *Control systems and robotic arm fundamentals*
- *CNC machine tool drive and control system*

TECHNICAL SKILLS

- *Heat Transfer, Thermodynamics, Fluid Mechanics*
- *Nuclear Engineering fundamentals and radiation safety principles*
- *MATLAB, ANSYS, PTC Creo, AutoCAD*
- *C Programming, MS Office*
- *Technical documentation, data analysis, and experimental methods*

REFERENCES

1. **Dr. Kundan Lal Rana,** Senior Associate Professor, Department of Mechanical Engineering, Thapar Institute of Engineering & Technology. Email: *Kundanlalrana@thapar.edu*
2. **Mr. Naseer Shafi Bhat**, Senior Manager (Environment), Uri Power Station, NHPC Limited, Email: *naseer@nhpc.nic.in*
3. **Dr. T. K. Bera,** Former Head, Department of Mechanical Engineering, Thapar Institute of Engineering & Technology, Email: *tkbera@thapar.edu*