

UZAIR ALI

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SUMMARY

Currently pursuing Master of Science (MSc) in Mechanical Engineering with thesis project about heat transfer analysis of cooling down hot steel plates by jet impingement. Graduated with Honors in Bachelor of Science (BSc) in Mechanical Engineering. My objective is to have hands-on experience in industrial field related to fluid mechanics, heat transfer analysis, and/or material science.

WORK EXPERIENCE

Research Assistant

Abu Dhabi University, United Arab Emirates (February 2019 – December 2020)

- Research funded by *Abu Dhabi Award for Research Excellence (AARE) 2018*
- Working with industrial-sized run-out-table facility for water jet impingement cooling system of hot steel plates (above 700°C).
- Research focuses on:
 - studying the effect of cooling rate on the material properties of steel
 - studying the different parameters (flow rate, nozzle height, jet velocity, plate velocity, ...etc.) that affect the cooling rate
 - developing empirical heat transfer correlation
 - simulating the cooling process on ANSYS and finding ideal model, mesh, and turbulence models for simulation of this process.

Teaching Assistant

Abu Dhabi University, United Arab Emirates (January 2018 - January 2019)

- Teaching assistant for undergraduate mathematics course: Calculus
- Tutor or mentor students who need additional instruction.
- Schedule and maintain regular office hours for students.
- Attend lectures given by the faculty member.
- Conduct teaching observations and student feedback about teaching performance.
- Coordinate with faculty on methods of improving students' academic performance.
- Coached and helped students increase their GPA's.
- Conducted tutorial sessions on the subject of: Mathematics/Calculus.

Internship

Implement Engineering Consultants, United Arab Emirates (January 2018 - March 2018)

- Designed a Firefighting system for an 8-storey residential building, complying all requirements needed by a mechanical engineer to design a firefighting system in the UAE (Compliant with the UAE Life and Fire Safety Codes of Practice)
- Created an HVAC design for the same building using HAP (Hourly Analysis Program) and AutoCAD.
- Devised an internal drainage system for a military accommodation facility.
- Partner with the company supervisor in building a water supply project for a residential building

RESEARCH PUBLICATIONS

- **Ali, Uzair J.** (2020). *Heat Transfer Measurement and Simulation of the Cooling Process in Hot Mill Lines* (Unpublished master's thesis). Abu Dhabi University, Abu Dhabi, UAE.
- **Ali, Uzair J.;** Dol, Sharul Sham B.; Azeez, Abid A. (2020) 'Design of an Ocean Wave Energy Converter - The Preliminary Study' *International Online Conference on Innovative Science, Engineering, and Technology (IOCISSET) 2020*
- **Ali, Uzair J.;** Khan, Mohammad S.; Mohamed, Omar A.; Gadala, M.S. (2020) 'Cooling of Hot Steel Plate on Run-Out Table Facility; a Simulation' *International Conference on Advanced Materials, Design and Manufacturing - 2020 Advances in Science and Engineering Technology (ASET) International Conferences, UAE.*
- Alkhedher, Mohammad; Younes, Tariq; Mohamad, Omar; **Ali, Uzair** (2020) 'Adaptive 6 DOF Self-Balancing Platform for Autonomous Vehicles', *International Journal of Computing and Digital Systems*, 9(1), pp. 69-75.
- Alkhedher, Mohammad; **Ali, Uzair;** Mohamed, Omar A. (2019) 'Modeling, Simulation and Design of Adaptive 6DOF Vehicle Stabilizer' *8th International Conference on Modeling Simulation and Applied Optimization (ICMSAO).*

EDUCATION

Master of Science in Mechanical Engineering

Abu Dhabi University, United Arab Emirates (February 2019 – December 2020)

- Thesis Project: Research on studying the cooling process of hot steel plates (above 700°C) using water jet impingement. The thesis project includes, but not limited to, the following:
 - Conducting actual experiments using the Run-Out Table facility provided on campus.
 - Studying different parameters affecting the cooling rate.
 - Developing empirical dimensionless correlations for cooling rate.
- Honor student and recipient of an academic scholarship for outstanding academic performance.
- University Representative for the College of Engineering's Mechanical Engineering Department
- Coursework: Finite Element Analysis, Advance Mathematics, Advanced Thermodynamics, Advanced Heat Transfer, Renewable Energy, Computational Fluid Dynamics.

Bachelor of Science in Mechanical Engineering

Abu Dhabi University, United Arab Emirates (2014-2018)

- CGPA: 3.85 out of 4.00
- Honor student and recipient of an academic scholarship for outstanding academic performance.
- Team Leader, Abu Dhabi University team for the Hybrid Electric Vehicle Competition for three years (2016, 2017, & 2018), winning 1st place and other remarkable awards.
- University Representative for the College of Engineering's Mechanical Engineering Department
- Coursework: Materials Science, Thermodynamics, Mechanics of Materials, Fluid Mechanics, Heat Transfer, Machine Design, Numerical and Finite Elements Simulation - Engineering Problems

ENGINEERING PROJECTS

- Capstone (Design) Project: Designing a six-degree of freedom manipulator for stabilizing a vehicle.
- Design analysis of a hydraulic press machine, focusing mainly on the joint areas.
- Designing a water supply system for a two-story apartment.
- Designing and constructing a mechanical attack and defense system for an R/C car.

RESEARCH

- Detailed research on heat transfer analysis of cooling process of hot steel plates by water jet impingement.
 - Comprehensive research on 6-DOF manipulators and Stewart Platforms for stabilizing a vehicle. (2018)
 - Conducted a research on heat recovery system for steel factories in the UAE (2017)
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ENGINEERING SOFTWARE / COMPUTER SKILLS

- AutoCAD, Fusion 360, Inventor
 - ANSYS
 - MATLAB
 - Hourly Analysis Program for HVAC
 - C++, Java Programming
 - CNC Coding (Milling and Lathe)
 - Microsoft Office: Word, Excel, and Power Point
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TECHNICAL SKILLS

- Fluid mechanics analysis (head losses, pump operating curves, etc.)
 - Milling (CNC and manual)
 - Lathe operation (CNC and manual)
 - Project Management
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ADDITIONAL SKILLS

- Leadership
 - Technical Report Writing
 - Communication Skills
 - Strong Analytical Skills
 - Efficient working
 - Self-Motivated
 - Critical Analysis and Problem-solving
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LANGUAGES

- English, Urdu, Pashto
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PERSONAL INTERESTS

- Reading/watching Documentaries
- Football, Swimming