Adil Ansari, MS

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SUMMARY

A **highly motivated mechanical engineering graduate** with a robust interest in STEM who has worked under independent and team working scenarios encompassing **multidisciplinary fields**. Values **problem solving** with given constraints and gives importance to **communication and interpersonal skills**.

EDUCATION

Arizona State University, Tempe, AZ
M.Sc., Mechanical Engineering, May 2019 **GPA: 3.73**
Thesis: A Collation and Analysis of Two-Dimensional Unsplit Conservative Advection Methods for Volume of Fluid at Interfaces
B.Sc., Mechanical Engineering (Computational Mechanics), May 2016 **GPA: 3.40**

WORK EXPERIENCE

Teaching Assistant SEMTE || ASU
January 2018 - May 2019 Tempe, Arizona
Operated wind tunnel labs with sensitive equipment for Aerodynamics Lab with **LabView**. Did **programming tutorials**. Evaluated reports and assignments.

Summer Technology Assistant Saudi Aramco Schools
2013 - 2016 Ras Tanura, Saudi Arabia
Statistically analyzed middle school fitness data using algorithms under Macro-Enabled MS Office spreadsheets and documents to generate individual reports after data entry.

PROJECTS

2019: Microjet Simulation (BioXFEL, National Science Foundation)
Working on ascertaining the dimension of micro-jets via C++ based **openFOAM** CFD simulations of a **microjet injector designed for finding structure and function of proteins**.

2015-2016: Senior Capstone Project
Automated **fire extinguishing mechanisms** for automobiles in emergency scenarios. **Lead team through planning, designing, fabrication, assembly, and testing**. Minimized false positives with CO_2 and IR flame sensing on embedded software.

2017: Multiphase Simulation Project
Generated codes for validation of state-of-the-art liquid-gas interface tracking methods.

2018: Spectral Computational Fluid Dynamics (CFD) Project
Coded a highly accurate method for modeling laminar flows and thermal heat exchange.

2013-2016: Engineering Projects in Community Service (EPICS)
Team Position: Deputy Leader. Partnered with STARS (Scottsdale Training & Rehabilitation Services) to engineer an efficient and reliable navigation system for **assisting visually impaired individuals**.

2017: Robot Trajectory Planning Project
Coded a trajectory for KUKA mechatronic robotic arms with obstacle avoidance.

2017: Finite Element Project
Coded a mesh and FEA solver to analyse static deformation.

SKILLS

Main: Robotics, Mechatronics, Kinematics, Dynamics, material properties, and structural, dynamic, and thermal analysis, engineering analysis, prototyping, CAD, engineering drawings.

Numerical: Image Processing, **Computational Fluid Dynamics (CFD)**, Spectral Analysis, Trajectory Planning for Robotic Arms, Structural **Finite Element Analysis (FEA)** with stress, strain, deformation, modal response.

Programming Languages: **MATLAB, C, Python, FORTRAN**, JAVA, HTML, JavaScript, LaTeX, Visual Basic.

General: Artificial Intelligence, Parallel/Distributed Computing, Experimental Statistics, CAD, FMEA, BOMs, QFD, Assembly, Real-time-Data Visualizations, GD&T, UNIX shell scripting, OOP, Embedded Software.

Applications: SOLIDWORKS, PTC CREO, MATLAB, **ANSYS Fluent**, ANSYS DesignModeler& Structural, **Microsoft Office Suite** (Macro-Enabled), Blender 3D, Adobe Photoshop, Adobe AfterEffects.

Hardware: Power Tools, Arduino Devices (Intel Galileo), Raspberry Pi, Oscilloscope, Micro-controllers, Linear Actuators, Short Range Binary Wireless Communication

Certifications: Fundamentals of Engineering, ASU information security training