MOEZ ULLAH KHAN

moezdurrani1@gmail.com | 405-441-2098 | www.linkedin.com/in/moezullahkhan | Norman, OK

EDUCATION

University of Oklahoma Norman, OK
Bachelor of Science in Mechanical Engineering | Minor in Computer Science | GPA: 3.54 **May 2024**
Relevant Coursework: Thermodynamics, Fluid Mechanics, Heat Transfer, Solid Mechanics, Statics, Design of Mechanical Components, Introduction to Java, Programming Structures and Abstractions, Data Structures, C Programming Course

SKILLS AND CERTIFICATIONS

Skills: SolidWorks, Python, Java, C++, JavaScript, Angular JS, C, HTML, CSS.
Technologies: Matlab, Visual Studio Code, GitHub, PyCharm, Blender, Arduino, LabView, NI Multisim

WORK EXPERIENCE

School of Aerospace and Mechanical Engineering, University of Oklahoma Norman, OK
Research Assistant / HVAC System, In-Duct Phase Change Material-Based Energy Storage Jan 2022 – May 2022

- Improved the experimental setup to pack PCM in small vacuum packets to increase energy storage by 20%.
- Redesigned the equipment using SolidWorks, to reduce the experiment time by more than 40%.

School of Computer Science, University of Oklahoma Norman, OK
Research Assistant / Enhancing Image Quality using Machine Learning Mar 2023 – Present

- Developed a Python program to simulate a sophisticated 3D environment with realistic lights, lenses, camera and physical laws.
- Incorporated an AI agent capable of generating 1000+ versions of the camera, to minimize errors in the generated image using NumPy, PyTorch and other relevant tools to program.

PROJECTS

Suspension Model of a Four-Wheel Drive Vehicle View Project

- Designed a fully functional suspension system for the front wheel of a 4-wheel drive vehicle using Solidworks software.
- Built 123 mechanical parts for the suspension and assembled the parts together to model the final prototype.

Power Generating Electric Skateboard View Project

- Coordinated with 3 students to design a model for a skateboard capable of converting kinetic energy of the board to electricity.
- The energy stored can be used to power the skateboard or external electric appliances.

Machine Learning-Based Lens Configuration Optimization in Optical Devices View Project

- Programmed a 3D engine using C++ and Python, to simulate a camera with 6+ lenses.
- Implemented 5 advanced algorithms, including Software Rendering and Ray Tracing to incorporate physical Laws into the scene.

Simulation Development: Snell's Law View Project

- Engineered a real-time simulation of Snell's Law in C, enabling user interaction and real-time adjustment of factors.
- Composed an essential algorithm to incorporate laws of optics and empower users to observe changes in the simulation.

E-commerce Website Development View Project

- Deployed a responsive e-commerce website using Angular JS, Node.js, and TypeScript. Integrated the Fakestore API to fetch and display product data. Deployed a secure payment and delivery platform using Stripe.com.
- Implemented key features such as product search, shopping cart functionality, and live product filtering by 4 categories.

LEADERSHIP AND PARTICIPATION

Computer Science Student Board Norman, OK
Executive-Chair May 2021 – Present

- Communicated with 3+ organizations to gather volunteers for the club's first-ever mock interview session; collaborated with a team of 9 students to coordinate event logistics, gather interview resources and promote the event.
- Monitored a resume review workshop for 20+ participants; delivered a presentation on resume best practices.

Freshman Engineering Showcase Norman, OK
Modeling Lead May 2021

- Supervised a group of 7 people to design and assemble a mechanical arm that works on a hydraulic system.
- Modeled and printed a mechanical arm using Solidworks and received special recognition for the fully functional model.

AWARDS

- Patti Wilson Scholarship: $8000 awarded on academic achievements, leadership experiences, and career goals May 2022
- Rita Scholarship: $1,500 awarded for leadership activities and community service May 2022