

# MUKESH GHIMIRE

101 Creekmore Dr, Oxford, MS 38655

662-202-2139 ◇ mghimire@go.olemiss.edu ◇ mukeshghimire.com.np

## EDUCATION

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### **Bachelor of Science in Mechanical Engineering**

Aug 2016 - May 2021

Minors: Computer Science and Mathematics

University of Mississippi

GPA: 3.98

## INTERESTS & SKILLS

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**Interests** Robotics and Controls, Mechatronics, Machine Learning, Artificial Intelligence

**Skills** Python, Java, C, MATLAB, Tensorflow, Solidworks, Arduino

## EXPERIENCE

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### **Lab Teaching Assistant (ENGR 314)**

Aug 2020 - Present

*Material Science Laboratory - Department of Mechanical Engineering, Olemiss*

- Helped to transition to online learning by performing demonstrations of various experiments for the lab course
- Graded lab reports of 72 students in the class.

### **Engineering Co-op**

Aug 2019 - Aug 2020

*Thyssenkrupp Elevator, Middleton, TN*

- Assisted in 'C2D' project with the goal of standardizing elevator production.
- Developed Standard Operation Procedures (SOPs) for production processes in Traction Control, Cabs, and Signals Assembly for Hydraulic and Traction Elevators.
- Developed manufacturing prints for Configure-To-Order (CTO) offerings.
- Used data analysis techniques to reduce the data processing time by more than 50%.

### **Summer Research Student**

May 2019 - Aug 2019

*Department of Mechanical Engineering, Olemiss*

- Reviewed journal articles on Vortex Tube, a device that takes compressed gases and separates into hot and cold streams known as Ranque-Hilsch Effect
- Attempted to understand the plausible reasons behind the temperature separation effect
- Established a ground-work for further research in the Department of Mechanical Engineering.

**Advisors: Dr. Mike Nash, Dr. Taiho Yeom**

### **Undergraduate Lab Assistant**

May 2019 - June 2019

*Composite Materials Research Lab, Olemiss*

- Studied the process of pultrusion in detail
- Manufactured carbon-fiber composites using several combinations of resins and epoxies provided by two renowned chemical companies.

**Advisor: Dr. Ellen Lacky**

## LEADERSHIP AND SERVICE

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### **STEM Camp Counselor**

May 2018 - July 2018

*Office of the Pre-College Programs - Olemiss*

- Mentored students from middle school to high school on their week-long STEM camps
- Organized camps with wide range of themes: programming, biology, game development, etc

- Performed scientific demonstrations such as: projectile motion, heat transfer, 3-D printing, concrete manufacturing and testing, etc
- Discussed a day-in-life of a STEM student so as to encourage students to pursue higher education in STEM.

**Supervisor: Tiffany Gray**

### **Community Assistant**

Aug 2017 - May 2019

*Department of Student Housing - Olemiss*

- Maintained a positive living atmosphere for 50+ residents, resolving conflicts whenever necessary
- Planned and organized events promoting mental, physical, and sexual health along with stress-relieving events during finals week
- Assisted in selection and evaluation of incoming CAs.

**Supervisors: Erin Parker, Anthony Calcagno**

## **PROJECTS**

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### **DeepRacer**

Sep 2020 - Present

*Honors Thesis*

- Trained Deep Reinforcement Learning (DRL) model to run the Amazon's DeepRacer car autonomously
- Wrote reward functions for different track settings and race settings to get effective result for different types of races
- Deployed the model in the 1/18 scale model of the DeepRacer car to test in real-life scenario.

**Advisor: Dr. Yixin Chen**

### **ASME SDC: The Pick-and-Place Race**

Jan 2019 - May 2019

- Led a team of four to design and develop a remote controlled robot for the ASME Student Design Competition in 2019.
- Won the qualifying competition within the school to further participate in the competition.

## **HONORS & AWARDS**

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Academic Excellence Award, SMBHC Research Fund Award, Phi Kappa Phi, Tau Beta Pi