MUKESH GHIMIRE

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SUMMARY

PhD Student at Arizona State University working in the field of game theory, reinforcement learning and optimization.

EDUCATION

PhD in Mechanical Engineering Expected Graduation: May 2025
Arizona State University, Tempe, AZ

Bachelor of Science in Mechanical Engineering May 2021
Minors: Computer Science and Mathematics
University of Mississippi, University, MS
GPA: 3.98/4.0

HONORS & AWARDS

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

SKILLS

Python, Java, MATLAB, Tensorflow, Pytorch, OpenAI gym, Arduino, Gazebo, Git, LaTeX

RESEARCH & PROJECTS

Reinforcement Learning in Autonomous Racing Sep 2020 - April 2021
Honors Thesis

- Trained Deep Reinforcement Learning (DRL) models 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 models in the 1/18 scale model of the DeepRacer car to test in real-life scenario.

Summer Research Student May 2019 - Aug 2019
Department of Mechanical Engineering, University of MS

- 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.

Undergraduate Research Assistant May 2019 - June 2019
Composite Materials Research Lab, University of MS

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

ASME SDC: The Pick-and-Place Race Jan 2019 - May 2019
University of MS

- 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

· Skills used: Micro-controller programming, mechanical design, 3-D modeling.

Experience

Mukesh Ghimire — mghimire@asu.edu

EXPERIENCE

Lab Teaching Assistant (ENGR 314) Aug 2020 - April 2021
Material Science Lab - Department of Mechanical Engineering, University of MS

- 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.
- Assisted students in writing technical reports.

Engineering Co-op Aug 2019 - Aug 2020
Thyssenkrupp Elevator, Middleton, TN

- Assisted in 'C2D' (Configure-To-Deliver) 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%.

LEADERSHIP & SERVICE

Community Assistant Aug 2017 - May 2019
Department of Student Housing - University of MS

- 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 Community Assistants.

STEM Camp Counselor May 2018 - July 2018
Office of the Pre-College Programs - University of MS

- Mentored students from middle school and high school on their week-long STEM camps
- Organized camps with wide range of themes: programming, biology and game development
- Performed scientific demonstrations such as: projectile motion, heat transfer, 3-D printing, concrete manufacturing and testing.

VOLUNTEER & COMMUNITY INVOLVEMENT

Poverty Simulation April 2019
University of MS

- Organized Poverty Simulation to raise awareness about poverty in the state of Mississippi
- Helped participants sensitize to the realities of poverty
- Brainstormed the misconceptions that the simulation helped to overcome regarding life in poverty.

Alternative Break March 2017
Organized by the Department of Student Housing, University of MS

- Helped pack over 1000 meals for children in the Las Vegas area (collaborated with Three Square Food Bank)
- Recycled soaps and other sanitary products discarded from lodging facilities in the Las Vegas area (collaborated with Clean the World)
- Helped clean the Grand Canyon National Park.