

## SUMMARY OF QUALIFICATIONS

- Experienced in designing over 15 mechanical systems and prototyping using hand tools, 3D printers, and workshop machines & equipment while prioritizing cost-effectiveness, manufacturability, and reliability.
- Proficient in 2D & 3D CAD software (AutoCAD, SolidWorks, and Autodesk Inventor) and competent with Finite Element Analysis (FEA) and Computational Fluid Dynamics (CFD) software for mechanical stress, heat transfer and fluid dynamics simulations.
- Skilled in programming languages (R, Python, and MATLAB) and adept with Robotic Operating System (ROS), Computer Vision, Machine Learning Algorithms, and Data Science Tools
- Ability to work in teams with effective communication and leadership skills.

## EDUCATION

**University of Georgia** – Athens, GA

**December 2023**

*Master of Science in Mechanical Engineering, Overall GPA: 4.00/4.00*

*Certificate: Graduate Certificate in Agricultural Data Science*

**Tribhuvan University, Pulchowk Campus** – Kathmandu, Nepal

**September 2017**

*Bachelor's degree in Mechanical Engineering*

## DESIGN AND FABRICATION EXPERIENCE

**Graduate Research Assistant**

**May 2021 to Present**

University of Georgia – Tifton, GA

- Developed over eight mechanical systems, including a robotic cotton harvester end-effector, cotton conveying vacuum system, Pigweed pulling end-effector, plant height measuring tool, Alcohol sampling device, a steering mechanism and a variable height spraying attachment for a rover, among others, from conceptual design to prototyping and testing.
- Designed CAD models in Autodesk Inventor and produced 2D drawings to assist a shop machine operator in fabricating components.
- Utilized additive manufacturing, specifically Fused Deposition Modeling (FDM), to produce rapid prototypes with both polymer and metal materials.
- Trained and implemented YOLOv3 and YOLOv4 models for cotton detection during robotic harvesting.
- Presented my research findings at conferences, including Beltwide, ASABE, and IIPA.

**Assistant Lecturer and Workshop Trainer**

**November 2018 to March 2021**

Himalaya College of Engineering – Lalitpur, Nepal

- Taught Engineering 2D and 3D drawing to 192 freshmen each academic year, guiding them in creating 3D models using SolidWorks and printing them using polymer filament 3D printers.
- Instructed 48 freshmen in each semester, imparting essential knowledge in Workshop Technology, and providing hands-on skills in Drilling and Lathe Machining, Bench Works, Gas and Arc Welding.
- Guided two final-year student teams in the fabrication on their final year projects.

## INTERN AND COURSE PROJECT EXPERIENCE

**Seedling Skip Replanter (Sensor and Transducer) & Magnetic Levitator (Control System)**

**Fall 2021, Spring 2022**

- Selected the appropriate sensors, using a wheel encoder and ultrasound sensor for the seedling skip replanter to detect seedling skips, while employing a Hall effect sensor for the magnetic levitator to measure distance.
- Designed the circuit board for the sensors and microcontrollers and then implemented software PID control system.

**Intern, Toyota Motors** – Kathmandu, Nepal

**November 2016-December 2016**

- Learned about the layout of the Toyota Motors service center including inventory management and workflow.
- Processed approximately 10 job orders per day from customers, analyzing potential issues with their vehicles and discussing them with service engineers and service technicians.

## HONORS AND AWARDS

**First Place, M.S. Student Poster Competition, 2023 IIPA Conference, Athens, GA**

**May 2023**

**First Place, Student Hackathon: Crop Track Competition, 2023 IIPA Conference, Athens, GA**

**May 2023**