BISHAL ADHIKARI

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Panauti, Nepal

EDUCATION

TRIBHUVAN UNIVERSITY

2020 - 2024

Thapathali Campus, IOE

Kathmandu, Nepal

Bachelors' Degree in Industrial Engineering

SKILLS

- **Programming**: Python, MATLAB, C++, ROS2
- Design & Manufacturing: Solidworks, Fusion 360, 3D Printing, Ansys, Laser Cutting, CAM
- Research Skills: Data Collection, Data Analysis, Literature Review, Report Writing (LaTeX)

PROJECTS

• Tiago Robot Localization, Mapping and Path Planning in Webots

February 2024

Tools: Python, Webots



- Implemented odometry based **localization** algorithm for a two wheeled robot in Webots
- Implemented LiDAR based environment mapping using Tiago, a two wheeled robot
- Implemented RRT and A* in python and integrated with Webots for path planning
- Designed Behavior Tree structure to integrate localization, mapping and path planning modules
- Design, Fabrication and Testing of an Industrial Delta Robot for Pick and Place

July 2023 - December 2023



- Tools: Python, ROS, Arduino, Solidworks, Prusa Slicer

 Used **SolidWorks** for design and assembly of the robot structure
- Developed **3D Spline Interpolation** based path planning algorithm in python
- Trained YOLO-v8 on custom tomato dataset for object detection and classification
- Developed Python script for forward and inverse kinematics of the robot
- Used ROS2 for communciation between vision, planning and control subsystems

• Smart Dustbin with Vision Based Waste Seggregation

March 2023

Tools: Python, Fusion 360, Arduino



- Trained and implemented YOLO v7 model for waste seggregation into paper, metal, plastic and organic waste
- Designed mechanical system for waste disposal at designated compartment

WORK EXPERIENCE

• Orion Space [�]

R&D Intern

March 2024 - June 2024

Bhaktapur, Nepal

• Developed solar panel deployment system for PocketQube satellite

- · Conducted research on impact analysis of solar panel deployment
- Hands-on 3D printing and laser cutting for prototyping, Fusion 360 for modelling
- Trained juniors on PocketQube satellite assembly and drop-testing

CERTIFICATIONS

• Arizona State University on Coursera: Additive Manufacturing Specialization

July 2024

• IACMI The Composites Institute: CNC Machining Training Program

July 2024

• DeepLearning.AI: Deep Learning Specialization

August 2024

HONORS AND AWARDS

THAPATHALI GRADUATE CONFERENCE - 2081

Thapathali Campus, Institute of Engineering

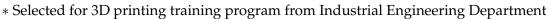
- * Awarded as one of the best final year projects
- * Presented the Delta robot project in the event

June 2024

February 2023

3D PRINTING TRAINING

Ministry of Industry Commerce and Supplies, Nepal



* Learnt from industry experts about 3D printing technology



AI FELLOWSHIP AWARD

January 2023

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Fusemachines

- * Granted fellowship to study and work on AI and Machine Learning projects using PyTorch
- * Got an opportunity to learn from industry experts
- * Obtained Microdegree in Machine Learning and Deep Learning

ADDITIONAL INFORMATION

Languages: Nepali (Native), English (Fluent), Hindi (Fluent)