BISHAL ADHIKARI

+977 9860895124 | 076bie011@tcioe.edu.np | Personal Website

linkedIn | WinnerBishal

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 [ ]** *March 2024 - June 2024*
  R&D Intern 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** *June 2024*

Thapathali Campus, Institute of Engineering [🌐]

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

◦ **3D PRINTING TRAINING** *February 2023*

Ministry of Industry Commerce and Supplies, Nepal [🌐]

∗ Selected for 3D printing training program from Industrial Engineering Department
∗ Learnt from industry experts about 3D printing technology

◦ **AI FELLOWSHIP AWARD** *January 2023*

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)