



AARJAN BUDATHOKI

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WORK EXPERIENCE

Engineering Intern

Abhiyan Engineering Nepal Pvt. Ltd.

Nov 2023 – Jan 2024

Lalitpur, Nepal

- Worked in embedded system of PSLM(Programmable Sand Level Measurement) Device
- Worked in hardware design, system design and system integration of PSLM

Work Student

Robotics Club, IOE Pulchowk Campus

Aug 2022 – Sep 2023

Lalitpur, Nepal

- Implemented kinematics modeling and odometry of four omniwheeled motion robot.
- Implemented linear controllers for position and velocity tuning of both brushed and brushless dc motors.
- Worked on manual tuning, heuristic based tuning called Ziegler Nichols Tuning and self learning tuning called Fuzzy PID Controller.
- Designed and Fabricated the main controller board of the R2 ROBOT and the power supply for both robot in ABU ROBOCON 2022.

EDUCATION

Bachelor in Electronics, Communication and Information Engineering

Tribhuvan University, Institute of Engineering, Pulchowk Campus

Apr 2021 – Present

Lalitpur, Nepal

High School

Hetauda School of Management and Social Sciences

Jun 2018 – Dec 2020

Hetauda, Nepal

PROJECTS

Self-Driving Car

Minor Project, Tribhuvan University

Ongoing

- Integrated ros2_control for precise control of car with ackermann geometry.
- Used SLAM algorithms to build precise visual lidar map of dynamic environment.
- Incorporated nav2 Stack for autonomous navigation.

Elephant and Rabbit Robot

ABU Robocon 2023 (Cambodia), Robotics Club Pulchowk Campus

Aug 2023

R1 and R2 Robot

ABU Robocon 2022 (India), Robotics Club Pulchowk Campus

Aug 2022

Maze Generation and Solving Algorithm

Data Structures and Algorithms Project, 4th Semester

Feb 2023

- Implemented DFS algorithm for maze generation.
- Used different shortest path finding algorithms like Dijkstra and A* algorithm.

Self-Balancing Robot

Instrumentation Project 3rd Semester

Jul 2022

- Implemented PID Control for angle equilibrium using IMU.

OTHER PROJECTS

End to End Learning for self driving cars in simulator

Data Augmentation, Tensorflow, CNN Architecture, Behavioral Cloning

Oct 2023

House Price Prediction with various Models and Techniques

Utilized various libraries for Data Analysis, Preprocessing & Model Training.

Dec 2023

Tic Tac Toe game with AI using Minimax Algorithm

Simulated using advanced AI techniques like Minimax Algorithm

HONORS AND AWARDS

Mabuchi Motor Award

ABU Robocon 2023, Asia-Pacific Robotics Competition, held in Cambodia

Aug 2023

2nd Runner Up

ABU Robocon 2022, Asia-Pacific Robotics Competition, held in India

Aug 2022

Nagase Award

ABU Robocon 2022, Asia-Pacific Robotics Competition, held in India

Aug 2022

Dronacharya Title Winner

LOCUS 2024

Jan 2024

TEACHING EXPERIENCE

Robo Line Dash

Locus 2024, 2 Days Workshop

Jan 2024

IOE, Pulchowk Campus

COMMUNITY INVOLVEMENT

Robotics Club, Pulchowk Campus

Participation in ABU Robocon 2023

Apr 2022 – Present

Lalitpur, Nepal

IEEE Student, Pulchowk Campus

General Member

Jan 2024 – Present

Lalitpur, Nepal

SKILLS

Programming: Python, C, C++, MATLAB, Socket Programming

ROS2: ros2_control, ros2_controllers, SLAM, Navigation Stack

Tools: yolov8, kalman_filter, opencv

Hardware: Arduino, STM, esp32

Software: Kicad, Altium, STM32CubeMonitor, STM32CubeProgrammer

Document Creation: LaTeX, Inkscape, vim