Shaownak Shahriar

Machine Vision Engineer

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Summary

I am a Computer Science and Engineering graduate with 4 years of experience in Robotics and Artificial Intelligence. My expertise includes Computer Vision, Autonomous Systems, and Control Systems. I have contributed to world-renowned robotics competitions such as the University Rover Challenge, International Rover Challenge, and ROBOSUB, securing accolades at global levels.

Education

BRAC University, Dhaka, Bangladesh Graduating in 2024
Bachelor of Science in Computer Science and Engineering

Technical Skills

Programming Languages: Python, C, C++, Java, Arduino
AI/ML Frameworks: TensorFlow, PyTorch, OpenCV, Scikit-learn
Robotics Tools: ROS, NVIDIA Jetson, Raspberry Pi, Pixhawk
Models: YOLO, SSD MobileNet, Mask R-CNN, SE-SSD, GLENet
Other Tools: Git, Linux, Docker, LaTeX

Experience

Dubotech May 2024 – October 2024
Autonomous Systems Engineer

- Developed real-time underwater video enhancement algorithms using GANs.
- Built AUV control systems with Pixhawk, NVIDIA Jetson Orin Nano, and multiple sensors.
- Integrated hardware and software for underwater autonomous navigation.

BRACU Duburi June 2021 – April 2024
Sub-Team Lead, AI and Machine Vision

- Designed navigation algorithms for underwater robotics with machine vision.
- Implemented object detection models (YOLO, SSD MobileNet) for underwater operations.
- Conducted sensor fusion using Kalman Filter for optimized control.

BRACU Mongol-Tori January 2022 – August 2023
Senior Member, Autonomous and AI

- Developed autonomous navigation for Mars rovers using SLAM and ROS.
- Worked on object detection and mapping with LiDAR and Realsense cameras.

Projects

BRACU RaptorX (Autonomous VTOL) December 2023 – Present

- Co-founded the project and developed an autonomous quad-plane for UAS research.
- Conducted real-world relief operations in flood-affected areas.

Shurokkha Rescue Bot (Autonomous Rescue Robot) November 2023

- Designed a robot capable of autonomous navigation in disaster scenarios.

Gas Flow Controller System (IoT) September 2023 – October 2023

- Developed an IoT system to detect gas leakage and notify users.

Achievements

- **1st Runner-up, ROBOSUB 2023:** Achieved second position globally in the largest underwater robotics competition.
- **University Rover Challenge 2023:** Participated in the world's largest Mars rover competition.
- **7th Position, IRC 2023:** Ranked among the top globally in International Rover Challenge.

Thesis and Research

Point Cloud-Based 3D Object Detection for UGVs May 2023 – October 2024
Focused on improving 3D object detection under occlusion using LiDAR and point cloud data.