

NOUSHAD SOJIB

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SUMMARY

Robotics engineer specializing in learning from noisy human demonstrations, with experience building diffusion and VLA-based policies for real robot systems.

SKILLS

Robot Learning	Imitation Learning, Diffusion Policy, VLA Models, Reinforcement Learning
Frameworks	PyTorch, JAX, HuggingFace
Robotics	ROS2, MuJoCo, RoboSuite, Franka, Sawyer, Stretch
Systems	Python, C++, Docker, Linux, GPU Training

EXPERIENCE

Research Assistant, Cognitive Assistive Robotics Lab, University of New Hampshire 2024 – Present

- Built pipelines for collecting and curating 1,000+ non-expert human demonstrations from 30+ users in simulation and on real robots.
- Designed an FFT-based method to detect and remove low-quality demonstrations, achieving $\sim 300\times$ faster quality estimation than prior methods.
- Developed mobile and web-based teleoperation interfaces for scalable data collection.
- Designed and deployed an autonomous charging dock for Hello Stretch robots in real home environments.

Robotics Intern, [Boltu Robotics](#) 2021 – 2022

- Developed ROS2-based perception modules for autonomous delivery robots.

Graduate Teaching Assistant, University of New Hampshire 2022 – Present

- Courses: Python, Java, Data Structures and Algorithms.

SELECTED PROJECTS

Vision–Language–Action Models 2025 [GitHub](#)

Developed data conversion pipelines to transform custom datasets into the LeRobot format. Fine-tuned Pi0.5, OpenVLA, and GROOT N1.5 models on real-world manipulation tasks using a Franka robot. Created open-source VLA getting-started guide and behavior cloning tutorials.

Diffusion Policy from Scratch 2024 [GitHub](#)

Implemented DDPM-based and image-conditioned diffusion policies from first principles. Evaluated on Push-T and RoboMimic manipulation benchmarks.

Learning from Non-Expert Human Demonstrations 2024 [Code & Data](#)

Collected demonstrations from 10+ lay users using SpaceMouse in simulation and on real Franka and Sawyer robots. Developed automated methods to detect and remove suboptimal segments, and evaluated BC-RNN, BC-Transformer, and Diffusion Policy on both Franka and Sawyer robots.

Autonomous Charging Dock for Mobile Robots 2023

Designed and deployed an autonomous charging dock for Hello Stretch robots. Demonstrated at IROS 2023 and deployed in real home environments.

Robots from Scratch (Humanoid Robots) 2014 – 2019

Founded RoboSUST robotics club at SUST. Designed and built two life-size humanoid robots (Ribo – 24 DOF, Lee – biped walker) using low-cost hardware. Led a multidisciplinary team, developed custom control electronics, and implemented bipedal walking controllers. [Project Gallery](#)

PUBLICATIONS

Sojib, N. and Begum, M., “Self-Supervised Detection of Incorrect Human Demonstrations: A Path Toward Safe Imitation Learning by Robots in the Wild,” *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2024.

Gesel, P., **Sojib, N.**, and Begum, M., “Self-Supervised Visual Motor Skills via Neural Radiance Fields,” *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2023.

Mispa, T.A. and **Sojib, N.**, “Educational Robot Kiddo Learns to Draw to Enhance Interactive Handwriting Scenario for Primary School Children,” *3rd International Conference on Intelligent Robotic and Control Engineering (IRCE)*, IEEE, 2020.

Sojib, N., et al., “Design and Development of the Social Humanoid Robot Named Ribo,” *IEEE Region 10 Humanitarian Technology Conference (R10-HTC)*, IEEE, 2017.

LEADERSHIP & EXTRA-CURRICULAR

- Founder, RoboSUST (robotics club at Shahjalal University of Science & Technology), 2013
- Mentored six robotics teams, including national and international winners
- Machine Learning Summer School, 2021, Taipei
- Received ICT Innovation Fund, 3rd Round, 2016, ICT Division, Bangladesh
- Awarded 2nd Runners Up at International Robotics Competitions (IRC), IIT-Bombay, India, 2015

EDUCATION

M.Sc. in Computer Science , University of New Hampshire	2022 – 2026
B.Sc. in Computer Science and Engineering , Shahjalal University of Science & Technology	2010 – 2015