

Tribikram Dhar

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RESEARCH INTEREST

Robotics, Deep Reinforcement Learning, Deep Learning in Medical Imaging, Autonomous control.

WORK EXPERIENCE

Researcher, TCS Research and Innovation Lab

July 2023 – present

Smart Machines and Autonomous Infrastructure

Bangalore, India

- Worked on robotic simulation in Nvidia Omniverse Isaac Sim using Nvidia Python API.
- Implemented Reinforcement learning agents in Simulation and trained a custom built mobile manipulator robot (UR3 arm with Robotiq 2f85 gripper on a Clearpath Husky base)

EDUCATION

Department of Electrical Engineering, Jadavpur University

Kolkata, India

Bachelor of Engineering, G.P.A : 8.72

2019-2023

- **Thesis:** "Measuring Potential using Finite Element Method and other iterative computation techniques."

PROJECTS

MLStaticC-Static Library in C++ for Machine Learning | [Code](#) | C++

December 2022

- Static library in C++ for machine learning algorithms and dataloaders to load and read data
- Functions able to perform K-Nearest Neighbour, K-Means clustering.
- Object oriented neural networks for training and classification problems.

Unsupervised N-channelled Image Segmentation | [Code](#) | Python, Numpy, Matplotlib

July 2022

- Unsupervised image segmentation for remote sensing images for multi-channelled images. Usually hyper-spectral or multi-band optical RS images, has been segmented to locate vegetation, object and vehicle
- Spatial K-means algorithm has been modified for multi-band RS data, with customized loss function and training function.

TECHNICAL SKILLS

Programming Languages: C++, Python.

Deep Learning Libraries: Pytorch, Matlab Deep Learning Toolbox

Simulation platforms: NVIDIA Isaac Sim, Unreal Engine

Scripting Languages: HTML, CSS, Javascript, SQL

Libraries in Python: Numpy, Matplotlib, rospy

Libraries in C++: Eigen, roscpp

PUBLICATIONS

- **T.Dhar**, N.Dey, S.Borra, R.S.Simon, "Challenges of Deep Learning in Medical Image Analysis -Improving Explainability and Trust", IEEE Transactions on Technology and Society, 2023. [Publication](#)
- **T.Dhar**, G.Adhikari, S.Chaudhuri, "An Improved Classification of Chest X-ray Images Using Adaptive Activation Function", IEMENTECH, IEEE Kolkata, 2021. [Code](#) [Publication](#)

COMPETITIVE PROGRAMMING PROFILES

[LeetCode](#)

[CODEFORCES](#)

[Codechef](#)