

Vihaan Akshaay Rajendiran

Portfolio | LinkedIn | GitHub

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EDUCATION

University of California, Santa Barbara

GPA: 4.0/4.0

Master of Science in Computer Science

Courses: Machine Learning, Advanced Computer Vision, Graph ML, Matrix Computational Analysis

Indian Institute of Technology, Madras

CGPA: 8.62/10.0

B.Tech in Mechanical Engineering & M.Tech in Robotics (Dual Degree)

Courses: Reinforcement Learning, Robot Mechanics, Multi-Body Dynamics, Linear Dynamical Systems

EXPERIENCE

University of California, Santa Barbara

Research Assistant – Applied AI / Machine Learning

Jan 2025 – Present

Developed deep-learning pipelines on multimodal satellite, DEM, ShakeMap, and fault-metadata streams for AI-for-Earth; Curated large-scale datasets with Python/PyTorch and benchmark state-of-the-art vision models in partnership with CMU.

Graduate Teaching Assistant

Sep 2022 – Jun 2024

Artificial Intelligence (Spring 2023); Data Structures & Algorithms (Fall 2023; Winter, Spring 2024)

The Jackson Laboratory

Graduate Student Researcher

Sep 2021 – Jun 2022

Implemented hierarchical reinforcement learning with option discovery for unsupervised mouse-behaviour identification; Generated synthetic 3-D pose data in Blender and built state representations that improved behavioural clustering accuracy.

Georgia Institute of Technology

Undergraduate Research Intern

May 2021 – Aug 2021

Reimplemented DQN and ablated stability factors (e.g., gradient clipping) to assess performance on OpenAI Gym tasks.

AIoT Lab, Ramakrishna Mission

Robotics Engineer Intern

May 2019 – Aug 2019

Built a custom 3-D-printed humanoid chassis for “Biley Bot,” integrated RB3/Jetson Nano/RealSense hardware, and wrote ROS nodes for head-tracking and voice-activated animations.

PUBLICATIONS (FIRST-AUTHOR)

LandsatQuake: A Large-Scale Dataset for Practical Landslide Detection [\[Paper\]](#)

ICLR '25, ML4RS Workshop

Vihaan Akshaay Rajendiran, Amanda Roeliza Guilalas Hunt, Lei Li, Gen K. Li

Bi-Directional Goal-Conditioning on Single Value Function [\[Paper\]](#)

NeurIPS '23, GCRL Workshop

Vihaan Akshaay Rajendiran, Yu-Xiang Wang, Lei Li

PROJECTS

Graph-Based Interactive Traffic Classification [\[Report\]](#)

Course Project – CMPSC 292F (ML on Graphs)

Satyandra Guthula, Vihaan Akshaay Rajendiran

Achieved near-SOTA network traffic classification using GCN/DGCNN (500× smaller than BERT) with pseudo-labeling.

Edge-Attention U-Net for Shoreline Segmentation [\[Report\]](#) [\[Code\]](#)

Course Project – CMPSC 281B (Adv. CV)

Vihaan Akshaay Rajendiran, Aman Sariya

Improved SWED-2 shoreline segmentation (F1, Jaccard, Dice) using an Edge Attention module over U-Net baselines.

Monocular 3D Pose Estimation with Evolutionary Synthetic Data [\[Paper\]](#)

Masters Thesis, IIT Madras '22

Vihaan Akshaay Rajendiran, B. Ravindran, Vivek Kumar

Built synthetic mouse data and domain-adapted augmentations for pose estimation, lifting 2D keypoints to 3D for behavior modeling.

ARTEMIS Railroad Crack Detection Robot

IIT-M Robotics Club (2018–21)

Vihaan Akshaay Rajendiran

Led design of Patented, Dyson-Prize-winning robot for real-time rail-crack detection while heading the IIT-M Robotics Club.

SKILLS

Deep Learning & LLM:

PyTorch, TensorFlow, LangGraph, LangChain, HuggingFace Transformers, FAISS, Pinecone

Data & Geospatial:

Pandas, NumPy, SciPy, GDAL, Rasterio, GeoPandas, SQLite, PostGIS, Jupyter

Systems & Vision:

C++17, ROS 1/2, Gazebo, RViz, OpenCV, PCL, Docker, Git, Bash