

Bhabaranjan Panigrahi

bhabaranjan.cs@gmail.com +1 571-587-7120 profile.bpanigrahi.com github.com/bhaba-ranjan Staffordshire LN, Fairfax, VA

EDUCATION

George Mason University, Fairfax, VA, USA

• *Master of Science in Computer Science*

GPA: 3.7 / 4

Aug 2022 - May 2024

Veer Surendra Sai University of Technology, Odisha, India

• *Bachelor of Technology in Information Technology*

GPA: 7.5 / 10

July 2018

COURSEWORK AND TECHNICAL SKILLS

Course Work: Computer Vision, Multi-modal Learning, Autonomous Robotics, Theory and Application of Data Mining, Introduction to Artificial Intelligence(AI), Analysis of Algorithms.

Technical Skills: C++, Python, TensorFlow, PyTorch, ROS, OpenCV, SQL, NoSQL, Docker, Git.

Industry Certification: Google Certified TensorFlow Developer. [@verify](#)

RESEARCH AND INDUSTRY EXPERIENCE

AI and Robotics Lab - George Mason University

Independent Research under Prof. Xuesu Xiao

Fairfax, VA

Jan 2023 - Present

- Currently working on using Multi-modal Deep Neural Networks to enhance social navigation skills of Mobile Robots.
- Leveraged transfer learning with deep learning models like ResNet-18 and PointNet, to learn effective features from Camera and LiDAR using sensor data fusion for improved decision-making.
- Utilized fused multi-modal sensor features to learn local planner from human demonstration using Behaviour Cloning.
- Learned Robot Operating System [ROS] and deployed the model on: Jackal Robot, to test it in real-life scenarios.

Center for Spatial Information Science - George Mason University

Machine Learning Research Assistant

Fairfax, VA

Jan 2023 - May 2023

- Applied Convolutional Neural Networks [CNN] to effectively Segment mesoscale ocean eddies with in the range of 100-300 K.M diameter using Sea Surface Height collected from satellite altimetry.
- Utilized OpenCV library to generate approximate eddy contours using segmented images.
- Streamlined operations by automating end-to-end data processing and segmentation workflow, enabling eddy detection on a daily basis while minimizing manual tasks.

Kroger

Senior Software Engineer - Full-time

Bengaluru, India

Jul 2020 - Jun 2022

- Integrated dynamic configuration module to enhance application's availability without the need for restarts.
- Utilised Git-lab continuous integration [CI] to automate build, versioning, and tests to filter pull requests for review.
- Implemented several APIs for the shopping list service and created complete continuous integration pipeline in Git-lab.

Greenroom

Software Engineer - Full-time

Bengaluru, India

Nov 2019 - Jun 2020

- Responsible for ingesting streamed user events and writing batch scripts to effectively process those to generate reports.
- Integrated auto-recovery from blocked IP in data scraping service to gather public data from various social-media platforms.
- Changed traditional docker build to two-stage docker build and reduce image size by half.

PROJECTS

Semantic Segmentation Adaptation Analysis: [@Link](#)

- Conducted extensive testing to evaluate the adaptation capabilities of DeepLabV3 on cityscapes dataset, leveraging its pre-training on PASCAL-VOC datasets.
- Experimented with different backbone models like ResNet-50 and MobileNet to monitor its adaptation and inference by plotting mIoU vs epoch graph.
- Experimented with dilation rate, learning parameter and batch sizes to test its impact on over-all performance.

Drug Discovery: [@Link](#)

- Iteratively improved accuracy on imbalanced datasets using Adaptive Boosting. Successfully outperformed standalone Neural Network by 4.2%.
- Implemented Decision Trees on the same dataset and experimented with pre and post-pruning to avoid overfitting.
- Compared both of them based on metrics like Precision, Recall and F1-Score and observed importance of each.