

Sougato Bagchi

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SOFTWARE DEVELOPER - ROBOTICS AND COMPUTER VISION

I am a product engineer and software developer with experience in **computer vision, machine learning, and SLAM (Simultaneous Localization Mapping)**. I am completing my Master's in Computer Science at the **University at Buffalo**, and have **2 years of commercial product development experience**.

I am currently conducting research and development in **Human-Robot Interaction (HRI)** with a goal to make robots work with sensory capabilities like humans. This includes visual and audio sensing along with mapping & localization. The robot models used are SoftBank Nao6, Pepper, and Boston Dynamics Spot.

I am completing a *Master's degree in Computer Science at the University of Buffalo* (graduation: June 1st, 2023).

TECHNICAL SKILLS

Languages	: Python, C++, MATLAB, Java
Frameworks	: Robot Operating System (ROS), Salesforce CRM
Libraries	: PyTorch, Scikit-Learn
OS	: Linux, Windows

EXPERIENCE

Machine Learning Engineer(Summer Job) <i>COZEVA - Applied Research Works, Inc</i>	June 2022 – Aug 2022 <i>Fremont, CA, USA</i>
<ul style="list-style-type: none">• Data Engineering to process large Data Sets (patient medical data)• Identification of Relevant Features for Machine Learning• Neural Network Model to predict medical care gaps• Associative Rule Mining to identify correlation between social demographics and care gaps	
Research Assistant <i>University at Buffalo</i>	Sept 2022 – Present <i>Buffalo, NY, USA</i>
Conducting research and development in Human-Robot Interaction, where some of the features I am responsible for implementing are:	
<ul style="list-style-type: none">• Audio-Visual Recognition• Feedback Learning using SLAM (Simultaneous Localization and Mapping)• Natural Language Processing (NLP) and Comprehension	
Teaching Assistant <i>University at Buffalo</i>	Feb 2022 – May 2022 <i>Buffalo, NY, USA</i>
<ul style="list-style-type: none">• Grading students• Assist students with project work	
Salesforce Developer <i>Tata Consultancy Services</i>	May 2019 – Nov 2020 <i>Kolkata, India</i>
<ul style="list-style-type: none">• Client Interfacing• Requirements Analysis• Data Visualization and Analysis	

EDUCATION

University at Buffalo <i>Master of Science in Computer Science; GPA 3.5/4.0</i>	Buffalo, New York, USA Aug 2021 – June 2023
University of Engineering and Management <i>Bachelor of Technology in Computer Science; GPA 3.7/4.0</i>	Kolkata, India Aug 2015 – April 2019

PROJECTS

Characterization of SLAM systems

C++, Python, ROS, Linux

[Source Code](#)

- * Evaluation of **Kalman-Filter** based SLAM systems
- * Performance comparison with other implementations in terms of Absolute Trajectory Error(ATE)
- * Deployed on [GitHub](#)

PUBLICATIONS

On Deep Learning for Dorsal Hand Vein Recognition

Python, PyTorch

IEEE, Nov 2022

- * Data Collection for Dorsal Hand images
- * Neural Networks trained on vein patterns, for using it as a biometric

Hepatocellular Carcinoma Survival Prediction Using Deep Neural Network

Python, TensorFlow

Springer, Oct 2018

- * Prediction of survivability of patients with HCC using clinical data
- * Neural Network as well as models like K-nearest Neighbor used for this data

Quantitative Rainfall Prediction: Deep Neural Network-Based Approach

Python, TensorFlow

Springer, Oct 2018

- * Predicting Rainfall based on Humidity, Temperature and other factors
- * Neural Network as well as Regression models used for this data

CERTIFICATIONS

- [Financial Markets \(with Honors\) - Coursera](#)
- [Computer Vision Basics - Coursera](#)