Sougato Bagchi

Location: Buffalo, NY, USA

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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)
June 2022 – Aug 2022
COZEVA - Applied Research Works, Inc
Fremont, CA, USA

- 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
Sept 2022 – Present
University at Buffalo
Buffalo, NY, USA

Conducting research and development in Human-Robot Interaction, where some of the features I am responsible for implementing are:

- Audio-Visual Recognition
- Feedback Learning using SLAM (Simultaneous Localization and Mapping)
- Natural Language Processing (NLP) and Comprehension

Teaching Assistant
Feb 2022 – May 2022
University at Buffalo
Buffalo, NY, USA

- Grading students
- Assist students with project work

Salesforce Developer
May 2019 – Nov 2020
Tata Consultancy Services
Kolkata, India

- Client Interfacing
- Requirements Analysis
- Data Visualization and Analysis

EDUCATION

University at Buffalo
Buffalo, New York, USA
Master of Science in Computer Science; GPA 3.5/4.0
Aug 2021 – June 2023

University of Engineering and Management
Kolkata, India
Bachelor of Technology in Computer Science; GPA 3.7/4.0
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