

Sougato Bagchi

Location: Buffalo, NY, USA

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DATA AND ML ENGINEER

Worked as a Data Engineering Intern processing large patient datasets to identify relevant features for an ML model and analyzed the relations among these features using Associative Rule Mining. Also worked as a Research Assistant analyzing customer purchasing patterns as well as RFM (recency, frequency, monetary), predicting product suggestions.

Built an Intelligent Robot incorporating autonomous navigation, audio-visual recognition and natural language processing.

Some of my work is published in IEEE and Springer Journals

TECHNICAL SKILLS

Languages	: Python, C++, MATLAB, SQL
Libraries	: PyTorch, Scikit-Learn
SDLC Tools	: Jupyter, VSCode, Eclipse, GitHub
OS	: Linux, Windows
Robot HW	: Camera, IMU, LiDAR, robo-motion
Frameworks	: Salesforce CRM, Robot Operating System (ROS)

EXPERIENCE

Research Assistant

University at Buffalo

Feb 2022 – Present

Buffalo, NY, USA

- Customer Segmentation and Product Suggestion by analyzing their purchase patterns and Associative Rule Mining, as well as RFM (recency, frequency, monetary) analysis
- Image Enhancement of noisy low-light images using Generative Adversarial Network (GAN) trained on reflectance and illumination patterns
- Intelligent Robot: Augmented a simple order-driven robot with sensory capabilities and reactions, such as Feedback Learning, Language Processing and Audio-Visual Recognition

Machine Learning Engineer(Summer Intern)

COZEVA - Applied Research Works, Inc

June 2022 – Aug 2022

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

Salesforce Developer

Tata Consultancy Services

May 2019 – Nov 2020

Kolkata, India

- Client Interfacing
- Requirements Analysis
- Data Visualization and Analysis

EDUCATION

University at Buffalo

Master of Science in Computer Science; GPA 3.5/4.0

Buffalo, New York, USA

Aug 2021 – Aug 2023

University of Engineering and Management

Bachelor of Technology in Computer Science; GPA 3.7/4.0

Kolkata, India

Aug 2015 – April 2019

Noisy Low Light Image Enhancement

Python, PyTorch, Linux

To be published

- * Create synthetic "noisy low light"-"ground truth" RAW image pairs
- * Generative Adversarial Network(GAN) trained on reflectance & illumination parameters of the image pairs
- * Network better de-noised and fixed the exposure for low-light noisy images

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

Characterization of SLAM systems

C++, Python, ROS, Linux

White Paper

- * Evaluation of **Kalman-Filter** based SLAM systems
- * Performance evaluation in terms of Absolute Trajectory Error(ATE)

CERTIFICATIONS

- Financial Markets (with Honors) - Coursera
- Computer Vision Basics - Coursera