

MADHU BABU SIKHA

• 650-582-8000 • msikha@buffalo.edu • linkedin.com/in/madhusikha • github.com/madhusikha • Google Scholar

Education

University at Buffalo, The State University of New York

Master of Science in Data Science; CGPA: 4/4

Sep. 2022 – Aug. 2023

Buffalo, New York

IIT Madras

Ph.D. in Communication Networks; CGPA: 8.75/10

Jul. 2010 – Aug. 2015

Chennai, India

Narasaraopeta Engineering College

Bachelor of Technology in Electronics and Communication Engineering; %: 77.22/100

Sep. 2003 – Apr. 2007

Guntur, India

Technical Skills

Programming Languages: Python, MATLAB, R, MySQL

Python Libraries for Data Science: scikit-learn, NumPy, pandas, Matplotlib, Seaborn

Machine Learning / Data Science: Feature Engineering, Feature Selection, Exploratory Data Analysis (EDA), Supervised learning algorithms, Unsupervised learning algorithms

Tools: Microsoft Power BI, MS Office, VS Code, GitHub, Jupyter, LaTex

Relevant Coursework

- Machine Learning
- Statistical Learning
- Data Models and Query Language
- Numerical Mathematics for Data Scientists
- Programming and Database Fundamentals for Data Scientists
- Computer Vision and Image Processing

Data Science Projects

Melanoma Cancer Prediction | Python, Pandas, Seaborn, Tensorflow, Keras

Nov. 2022 – Dec. 2022

- We trained and utilized an EfficientNetB4 CNN with skin disease images, achieving a specificity of 99% and sensitivity of 98% on the validation set. This surpassed existing state-of-the-art methods in literature, as a result of efficient handling of data imbalance through stratified sampling and synthetic image generation using TensorFlow Keras.

Breast Cancer Prediction | Python, Pandas, Seaborn, scikit-learn

Nov. 2022

- Implemented various Classification algorithms on Wisconsin dataset, to predict the possibility of the cancer being benign or malignant and achieved an accuracy of 99%, an old Kaggle competition.

Walmart Sales Prediction | Python, Pandas, Seaborn, scikit-learn

Sep. 2022

- Implemented various Regression techniques like Linear Regression with Regularization, Decision Trees, Random Forests for the prediction of Walmart store sales, an old Kaggle competition.

Rain in Australia | Python, Pandas, Seaborn, scikit-learn

Sep. 2022

- Implemented various Classification algorithms like Logistic Regression, Decision Trees, Random Forests for predicting did it rain Rain next day or not in Australia using Kaggle data set.

Academic Projects

TDM over PSN: Performance Analysis using Queueing Models with State-Dependent Service (Ph.D. Thesis)

- Proposed two algorithms for jitter control in TDM over PSN networks and minimized the variance in input packet stream by 78.5%.
- Statistical analysis of the algorithms was carried out using different stochastic processes in multi-class traffic environment, by modeling this scenario as a multi-queue scheduling system.

Decision based Non-linear Filters for Impulse Noise Removal in Images

Jul. 2008 – May 2009

- Proposed an algorithm to efficiently remove salt and pepper noise up to a noise density of 90%, random valued impulse noise up to a noise density of 50%, and also a mixture of both.

Academic Achievements

- Published 9 research articles in reputed IEEE and Springer journals and conferences.
- Ranked among Top 0.6% (All India rank: 1127, Total candidates appeared: 176,944) in GATE 2012.
- Member of a team of size 3 in the Microsoft's "AI for Earth Grant", which was sanctioned to our organisation.

Academic Experience/ Leadership

- Created impact on good number of students' career through teaching and motivating while working as a Faculty in Malla Reddy Engineering College, Hyderabad, India, from Aug 2015 to June 2022.
- Lead a team of around 250 faculty during NAAC accreditation process and achieved highest grade A++ (top 2.5% institutions out of 3000 institutions in India).