

# MADHU BABU SIKHA

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## Education

<b>University at Buffalo, The State University of New York</b> <i>Master of Science in Data Science; CGPA: 4/4</i>	<b>Sep. 2022 – Dec. 2023</b> <i>Buffalo, New York</i>
<b>IIT Madras</b> <i>Ph.D. in Communication Networks; CGPA: 8.75/10</i>	<b>Jul. 2010 – Aug. 2015</b> <i>Chennai, India</i>
<b>Narasaraopeta Engineering College</b> <i>Bachelor of Technology in Electronics and Communication Engineering; %: 77.22/100</i>	<b>Sep. 2003 – Apr. 2007</b> <i>Guntur, India</i>

## Experience

<b>Janssen Research &amp; Development, LLC</b> <i>R &amp; D Data Sciences Intern – Medical Imaging with Deep Learning</i>	<b>May 2023 – Aug. 2023</b> <i>Titusville, New Jersey</i>
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## 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
- Programming and Database Fundamentals for Data Scientists
- Computer Vision and Image Processing

## Data Science Projects

<b>Melanoma Cancer Prediction</b>   <i>Python, Pandas, Seaborn, Tensorflow, Keras</i>	<b>Nov. 2022 – Dec. 2022</b>
<ul style="list-style-type: none"><li>Trained EfficientNetB4 CNN with skin disease images and achieved 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.</li></ul>	
<b>Breast Cancer Prediction</b>   <i>Python, Pandas, Seaborn, scikit-learn</i>	<b>Nov. 2022</b>
<ul style="list-style-type: none"><li>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.</li></ul>	
<b>Walmart Sales Prediction</b>   <i>Python, Pandas, Seaborn, scikit-learn</i>	<b>Sep. 2022</b>
<ul style="list-style-type: none"><li>Implemented various Regression techniques like Linear Regression with Regularization, Decision Trees, Random Forests for the prediction of Walmart store sales, an old Kaggle competition.</li></ul>	

## Academic Projects

<b>TDM over PSN: Performance Analysis using Queueing Models with State-Dependent Service (Ph.D. Thesis)</b> <ul style="list-style-type: none"><li>Proposed two algorithms for jitter control in TDM over PSN networks and minimized the variance in input packet stream by 78.5%.</li><li>Statistical analysis of the algorithms was performed in a multi-class traffic environment by modeling the scenario as a multi-queue scheduling system.</li></ul>	
<b>Decision based Non-linear Filters for Impulse Noise Removal in Images</b> <ul style="list-style-type: none"><li>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.</li></ul>	<b>Jul. 2008 – May 2009</b>

## 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).