Deepthi Antony

Green-card holder authorised to work in the US

EDUCATION

University of Michigan, Ann Arbor — College of Engineering, Ann Arbor, MI *Aug 2021 - Aug 2022*
Master of Engineering in Data Science and Machine Learning *GPA: 4.00 / 4.00*

National Institute of Technology Karnataka, Surathkal, India *Dec 2014 - Dec 2018*
Ph.D. in Electrical and Electronics Engineering *GPA: 9.69 / 10.00*

National Institute of Technology Karnataka, Surathkal, India *Jul 2011 - Jun 2013*
Master of Technology in Power and Energy System *GPA: 8.49 / 10.00*

Anna University, Chennai, India *Jul 2006 - Apr 2010*
Bachelor of Engineering in Electrical and Electronics Engineering *GPA: 8.40 / 10.00*

WORK EXPERIENCE

Ford Motor Company, Dearborn, MI *May 2022 - Aug 2022*
Research and Advanced Engineering Summer Intern
- Implemented the machine learning pipeline to construct disconnect clutch transfer function using Gaussian Process Regression, including data generation, de-noising, optimal unbiased sampling, training, and testing.

Ramaiah University of Applied Sciences, Bangalore, India *Jul 2018 - Jul 2019*
Assistant Professor
- Delivered lectures to students. Guided student projects and published the work in international journal.

SCMS School of Engineering and Technology, Cochin, India *Jun 2013 - Dec 2014*
Assistant Professor
- Delivered lectures to students. Conducted MATLAB and PSpice tutorial for undergraduate students.

PROJECTS

Regression based prediction of electricity generation using machine learning
Demo website *Feb 2022 – Apr 2022*
- Developed a polynomial regression model to predict the net electricity generation in the mid-west region of USA.
- Estimated the parameters that produce the smallest fitting error and the best future forecast.
- The machine learning model is deployed using AWS lambda. A web application is built and deployed using Heroku.

Image classification using convolutional neural network *Jan 2022 − Mar 2022*
- Collected the image classification data set and trained the classification model using PyTorch
- ResNet and transfer learning from networks pre-trained on ImageNet are used for classification.
- Analyzed the confusion matrix of the classification system and saliency map of the trained models.

Developed a novel non-iterative algorithm for predicting the location of partial discharge in transformers
Work published in IEEE Transactions on Power Delivery *Aug 2017 – Aug 2018*
- Evaluated the performance of the proposed method by applying to the data taken from the published literature.
- Reduced the computational time to the order of 10^{-4} seconds compared to seconds when using existing methods.

Developed a data anomaly detection procedure for identifying and mitigating effect of erroneous measurement
Work published in IET Science, Measurement Technology *Dec 2015 – Dec 2016*
- Developed two mathematical methods using Newton's method & discriminant to analyze the input time measurements.
- Improved partial discharge localization accuracy by removing erroneous time measurements.

MAJOR PUBLICATIONS
Google scholar citations: 54, h-index: 4, and i10-index: 2

TECHNICAL SKILLS
Programming Languages: Python, SQL, Julia, MATLAB.
Machine Learning: Time Series Analysis, Forecasting, Classification, Regression Analysis, Deep Learning, Dimensionality Reduction, and Recommender System.
Frameworks/Applications: Pytorch, Tensorflow, Numpy, Pandas, Matplotlib, Seaborn, scikit learn, AWS, Docker, Minitab.
Certifications: Lean Six Sigma Green Belt

RELEVANT COURSES
Data Science: Computational Data Science and Machine Learning, Data Science and Machine Learning Design Laboratory, Deep Learning for Computer Vision
Mathematics: Probability and Random Processes, Computational Linear Algebra, Optimization Techniques.
Coursera: Machine Learning by Stanford University, Python for everybody specialization by University of Michigan

ACHIEVEMENTS
Best Paper Award: First place in student paper competition in 2018 Electrostatics Joint Conference held at Boston University.
Financial Grant: Awarded financial grant to attend the 2018 Electrostatic Joint conference in Boston University, USA by the Science and Engineering Research Board (SERB), government of India.
Scholarships: Received postgraduate scholarship from Ministry of Education, Govt. of India for M.Tech and Ph.D.
Basketball: Represented Kerala State, Anna University and NITK Surathkal in National level Basketball Championships.