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 - Dec 2022 (expected)*
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*

PROJECTS

Forecasting the COVID-19 trend using polynomial regression — *Sep* 2021 – *Oct* 2021

- Developed a polynomial regression model to predict the trajectory of COVID-19 from May 5, 2020.
- Estimated the parameters that produce the smallest fitting error and the best future forecast.

Breast cancer detection using PCA factorization and linear classifiers — *Oct* 2021 – *Nov* 2021

- Designed a linear classifier to classify the benign and malignant tumors utilizing PCA factorization.
- Evaluated the performance of various linear least-squares classifers using ROC analysis frame work.

Handwriting recognition using Nearest subspace classification and Deep Nets — *Nov* 2021 – *Dec* 2021

- Designed a deep neural network with TensorFlow to classify all 10 digits (0-9) and computed the confusion matrix.
- Computed the optimum k value for which the nearest subspace algorithm achieved an accuracy of 94.55%.

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

WORK EXPERIENCE

Ramaiah University of Applied Sciences, Bangalore, India — *Jul 2018 - Jul 2019*
Assistant Professor

- Delivered scheduled lectures to students on Electrical Machines and Elements of Electrical Engineering.
- Guided student projects and presented the work in national conferences.

SCMS School of Engineering and Technology, Cochin, India — *Jun 2013 - Dec 2014*
Assistant Professor

- Conducted MATLAB and PSpice tutorial for undergraduate students.
- Worked as undergraduate student advisor.

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.