

Denesh Kumar Manoharan

deneshkumarmanoharan@gmail.com | +1 (814)-996-8648 | 445 Waupelani Drive, J31, State College, PA 16801, USA |
<https://www.linkedin.com/in/denesh-kumar-m-868369b9/>
<https://github.com/deneshkumarmn>

Objective

Actively looking for Internship opportunities for summer 2022 in the field of Computer Vision, Machine Learning, Data science, Data Analyst and the IoT.

EDUCATION

Master of Science , Electrical and Computer Science Engineering The Pennsylvania State University	Aug 2021 - May 2023 GPA: 3.56
B.Tech , Electronics and Computer Engineering Amrit Vishwa Vidyapeetham	Jul 2016 - Apr 2020 GPA: 7.18

SKILLS

Programming: Python, MATLAB, C++, MySQL, MongoDB, labVIEW, Ansys HFSS

Libraries: Numpy, Pandas, Jupyter, Keras, Tensorflow, Pytorch, SciPy

Visualization: Excel Chart, Matplotlib, Seaborn, Tableau

EXPERIENCE

Software Quality Engineer Intern , Rently	Apr 2020
<ul style="list-style-type: none">• Understand customer specifications• Create Automation test scripts and execute test scripts using TestNG• Integration with Jenkins fortnightly execution• Analysis of nightly execution and bug report	

PROJECTS

Analysis of Deep Learning Algorithms for Plant Leaf Disease Detection

- A data set of 9.8K images was downloaded from ImageNet by Stanford University and Image augmentation was applied on data set and increased it to 40K images.
- VGG-19, ResNet-50, AlexNet-50 algorithms were implemented to identify and classify the disease in tomato leaf
- ResNet-50 was more accurate in detecting and classifying the infected tomato leaf and ResNet-50 achieved the best ROC score as 0.99

Improving Accuracy of a Pyranometer by Regression Analysis

- The Irradiance of low accurate SP-110 and high accurate SE-1000-SEN-IRR-S1 data is calculated at a constant time interval of 5 minutes. This data is then used to model an equation using regression
- Using Minitab, the 70% of data was used to find constants of testing regression models and remains 30% was used for testing the improved accuracy
- Observed that accuracy of SP-110 pyranometer is improved by 5.47% in quartic regression model

Microstrip Antenna Design for Energy Harvest

- Designed a single-fed circularly polarized microstrip antenna using differential evolutionary algorithm to enhance axial ratio band width, directivity, return loss and dual band resonating frequency
- Used ANSYS HFSS tool to design the antenna & analyze radiation patterns and parameters; used VB script code to design it in MATLAB
- Observed the antenna to be resonating with an accuracy of 99% with return loss less than -10dB

Rectangular Microstrip Patch Antenna Miniaturization

- Designed a microstrip patch antenna resonating at 4GHz and the resonance frequency is shifted to 2.4GHz by implementing improved Genetic algorithm on surface of the patch.
- The return loss at 2.4GHz is achieved less than -10dB and the efficiency is above 70 percent
- The antenna miniaturization was achieved by 45.80%

PUBLICATIONS

- [Rectangular Microstrip patch antenna miniaturization using improvised Genetic Algorithm](#)
- [Design of Circularly Polarized Patch Antenna using Genetic Algorithm for Energy Harvesting](#)
- [Calibration of a Pyranometer using Regression Analysis](#)