NEELANSHI VARIA

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EDUCATION

- **MS in Artificial Intelligence, Northwestern University**   *CGPA: 4.0/4.0*   *Sep '19 - Dec '20*
  - Coursework: Artificial Intelligence, Machine Learning, Frameworks of AI, Data Science Seminar, Deep Learning, Natural Language Processing, HCI, Scalable Software Architectures, Statistical Language Modeling
- **BTech in Information and Communication Technology, Dhirubhai Ambani Institute of Information and Communication Technology**   *CGPA: 7.98/10.0*   *Jul '15 - May '19*
  - Teaching Assistant for Digital Logic Design course with 330 students for Fall '18.
  - Coursework: Neural Networks, Data Mining, Data Structures, DBMS, Software Engineering, Operating Systems
  - Convener, Research Club | Chair, IEEE Industry Applications Society | Core member, IEEE Women in Engineering

PUBLICATIONS

- Deep TEC: Deep Transfer Learning with Ensemble Classifier for Road Extraction from UAV Imagery [MDPI journal of Remote Sensing, 5-Year Impact Factor: 4.118]
- DeepExt: A Convolution Neural Network for Road Extraction using RGB images captured by UAV. *[IEEE SSCI]*
- EObjCount: An Evolving Spectral and Spatial Approach for Tree Count using Multispectral Satellite Images. *[IEEE SSCI]*
- Change Detection of Polarimetric SAR Data for Monitoring of Agricultural Areas. *[ISPRS]*
- Perspectives for Evaluating Conversational AI. *[ACM ICTIR SCAI]*
- Deep Reinforcement Learning for Conversational AI. *[ACM ICTIR SCAI]*

SELECTED PROJECTS

- **Reading comprehension on earnings call transcripts, GreenKey Technology**   *April '20 - ongoing*
  - Developing a pipeline to generate real-time answers for financial firms to automate market research reports.
  - Fine-tuning, training and ensembling out-of-the-box models like BERT, GPT, BiDAF, etc. and plan to launch it on AWS.
- **Traffic Light, NU Innovation Lab** [Link]   *Jan '20 - March '20*
  - Collaborated with Thomson Reuters Lab, Pritzker School of Law and Judge Martinez, Florida HC to develop an Expert Knowledge Tool to serve judges for predicting whether or not a defender is a victim of Human Trafficking.
- **Computer Vision Lab, DA-IICT:** Challenge winner, Visual attention modeling for 360° images and videos [Link]
- **IEEE Sensors Council:** Make Your Own Sensors Applications [Link]

WORK EXPERIENCE

Northwestern University *(Graduate Research Assistant)*   *Feb '19 - ongoing*
- Working on deep learning methods to quantify land-use change in Illinois in association with Argonne National Lab.
- Performed data extraction using ArcGIS and feature engineering, classifying wetlands using state-of-art DL models.

Agency for Science, Technology and Research, Singapore *(Deep Learning Research Intern)*   *Dec '18 - Aug '19*
- Designed and implemented a Deep Transfer Ensemble Neural Network for road extraction from satellite data.
- Performs 18% better in terms of occlusion removal than the suggested state-of-the-art.

Nanyang Technological University, Singapore *(Remote Research Assistant)*   *May '18 - Sep '18*
- Project 1: Constructed a framework to extract tree-crowns from satellite data using Extreme Learning Machine.
- Project 2: Implemented FCN and GANs using Caffe for road extraction which resulted in better occlusion removal.

Space Application Centre, Indian Space Research Organization *(Data Science Intern)*   *May '18 - Aug '18*
- Developed change detection on agricultural Polarimetric Synthetic Aperture Radar data using unsupervised learning.
- Automated the task by making a software module using Java and C++ for MIDAS, the in-house software of ISRO.

TECHNICAL SKILLS

- Python, R, Java, C++, UNIX Shell scripting, HTML, CSS, SQL, Javascript | Coursera Data Science Specialisation
- **Tools/Libraries:** Tensorflow, PyTorch, Keras, nltk, Tableau, Trifacta, Databricks, MATLAB, Git, PostgreSQL, Caffe, d3.js

EXTRACURRICULARS

- Utilized Art Institute of Chicago's API to make art accessible remotely and for free during COVID-19 pandemic. [Link]
- Volunteer at Himalayan Institution For Environment, Ecology & Development   *Nov '16 - Dec '16*
- Recipient of Annual Meet Travel Grant Program award thrice ('16, '17 and '18) to attend IEEE IAS Annual Meet, USA.