

# NOEL D'SOUZA

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## EDUCATION

### Manipal Academy of Higher Education - Manipal Institute of Technology

Manipal, India

Bachelor of Technology in Electrical and Electronics Engineering | GPA 8.41/10

July 2016 - August 2020

Minor Specialization: Data Science

Relevant courses: Machine Learning, Data Structures & Algorithms, Data Scientist's Toolbox & R Programming, Introduction to Data Science, Data Science Part II, Advanced Data Science

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## WORK EXPERIENCE

### GE Gas Power

Bangalore, India

Intern

Jan 2020-July 2020

Data Engineering Specialist

July 2020-Present

- Designed a tool that automated the process of identifying duplicate customer records, processed quarter million records in half an hour and led to improving cash collection time
- Designed and deployed a CV solution to ensure employees wore the required safety gear, implemented object detection and tracking along with designing the data flow architecture. Won a CIO award for this project.
- Led the design of a CV solution to monitor if employees were within a certain distance from a suspended load, calculated based on the dimensions and elevation of load
- Used NLP to improve a PII data identification tool to reduce false positives by 60%. Implemented multiprocessing and code optimization to reduce processing time by 50x. Won a CDO award for this project.
- Worked on upgrades and maintenance of a business-critical in-house Data Lineage tool used by over 1k people

### National University of Singapore & HPE

Singapore

Global Academic Internship Programme: Big Data Analytics using ANNs

June 2019

- Built an American Sign Language (ASL) to text translator that ran in real time on a CPU and was robust to lighting conditions and skin color with the final model presented to three NUS faculty
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## PROJECTS

- **Diabetic Retinopathy Diagnosis:** Developed an ML model to classify retinal fundus images for Diabetic Retinopathy into 5 classes, design included development of image pre-processing algorithm
  - **Melanoma Segmentation:** Trained a Mask-RCNN model using transfer learning to segment melanoma from images of skin abnormalities, modified the input layer to accept a 6-channel pre-processed image
  - **Ball on Plate:** Lead a team developing a 2-axis of motion plate that balanced a ball using PID control of two motors, with an overhead camera to estimate position, was showcased during the annual college technical festival
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## SKILLS

Programming Languages: Python, C/C++, SQL, Cypher, JavaScript, Shell

Software: MATLAB, Tableau | Computing Environments: Linux, AWS

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## PUBLICATIONS

- "A Multiclass Skin Lesion classification approach using Transfer learning based convolutional Neural Network", 2021 Seventh International conference on Bio Signals, Images, and Instrumentation (ICBSII) (pp. 1-6). IEEE
  - "Automated detection of pathological and non-pathological myopia using retinal features and dynamic ensemble of classifiers", 2020 Telecommunications and Radio Engineering, 79(20)
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## AWARDS

GE Gas Power Chief Information Officer – Deliver with Focus Award

March 2021

GE Gas Power Chief Data Officer – Deliver with Focus Award

October 2020

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## ADDITIONAL INFORMATION

**Technical Head, Astronomy Club** – Founded and led a team that applied ML techniques to astronomical datasets (2018)

**PR Head, Astronomy Club** – Led a team to manage the club's social media presence and organize guest lectures (2018)

**Robotics Competition** – placed second as a team of four to build a robot to traverse a maze (ESIGELEC, France) (2018)