Bharath Chowdhary Nagam

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CURRENT RESEARCH

PhD Topic: *Searching for extremely rare objects in the Universe.*

Description: *To research and develop novel image classification algortihm to find strong gravitational lenses from KiDS and Euclid (upcoming) data.*

EMPLOYMENT

PhD student
Rijks Universiteit Groningen,
Data Science and Systems Complexity,
Dec 2020 - current

EXPERIENCE

ASML,The Netherlands
Design Engineer, Metrology Department
Jan 2018 - Dec 2020

Master Thesis- Constraining Orbital Parameters of J1407b
Leiden University, The Netherlands
Dec 2016 - Aug 2017

Internship - Optimal Energy solution for earth bound and interplanetary trajectories
University of La Rioja, Spain
July 2016- Sep 2016

EDUCATION

TU Delft, Delft,The Netherlands
Master of Science (M.Sc), Aerospace Engineering(Space Exploration)
2015- July, 2017 CGPA: 8.00/10.00

CIT, TN,India
Bachelor of Engineering,(Mechanical Engineering)
2011-May, 2015 CGPA: 9.0/10.0

TECHNICAL SKILLS

Languages : Python (4+ years) , Matlab (5+ years).
Tools/Libraries : Numpy, Astropy, Scikit-Learn, TensorFlow(Python), Keras, OpenCV.
Familiar : C, C++, Git, SVN.

Relevant Experience in Astronomy

• Removal of stellar noise in RV signal using Gaussian Process

• Created a sample project using **Generative Adversarial Networks (GAN)** along with CNN to detect exoplanet in Direct Imaging data

• Characterization of J1407b (exoplanet with giant ring system) using Transit, RV and Direct Imaging data

Experience in ASML

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• [2018] Developing functional code for mathematical modelling in **Matlab**

• [2018] Predict drift in grid plate using Gaussian Process(A ML based statisctical technique) with **Python**

• [2019] Predicting the broken actuators in half dome mirror using **Convolutional Neural Networks**.

CERTIFICATION

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• **Machine Learning** by Stanford University on *Coursera*

• **Neural Networks and Deep Learning** on *Coursera*
(Logistic Regression with Deep Learning, Deep Neural Nets)

• **Hyper Parameter tuning, Regularization and Optimization** on *Coursera*

• **Convolutional Neural Networks** on *Coursera*
(Deep Convolutions, Residual Networks, YOLO, Face Recognition)

• **Sequence Models** on *Coursera*
(RNN , LSTM, GRU, Machine Translation)

• **TensorFlow in practice specialization** on *Coursera*

FAMILIAR TOPICS

• Computer Vision
• Semi-supervised learning
• Clustering
• Linear and Logistic Regression
• Support Vector Machines
• Anomaly Detection
• Deep Neural Networks
• Bias and Variance Regularisation
• Natural Language Processing

HOBBIES

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• **Star Gazing**
• **Playing Tennis**