

# Mohammed Rizin V K

16 y/o Deep Learning Engineer | Kaggle Competition Master

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## EDUCATION

**Udacity Self Driving Car Engineer Nanodegree**

**SMECLabs Automation Training Institute**

**High School**

Kozhikode, Kerala, India

Malappuram, Kerala, India

Credential ID: [FTD4FLME](#)

(04/2018 – 06/2018)

(2019 – 2023)

## AWARDS AND ACHIEVEMENTS

**1<sup>st</sup> Place VinBigData Chest X-ray Abnormalities Detection (Kaggle)**

[Code](#), [Leaderboard](#)

- Appointed to develop detection models and post-processing methods to give an improvement of 60% in mAP score
- Provided detection models to detect bounding boxes of 14 diseases given an X-ray.
- Collaborated with 4 member team and worked with other detection models too.
- Prepared a Classification model to find if any abnormalities are there or not to give an improvement of 80% in mAP.

**2<sup>nd</sup> Place in Bristol Myers Squibb: Molecular Translation Competition (Kaggle)**

[Leaderboard](#)

- Worked on an extremely large dataset (4.04 million images) and with other (10 million) external datasets.
- Built a Transformer Encoder and Transformer Decoder model to predict the InChI of a given molecular graph image.
- Developed 5 ensemble /post-processing techniques to give an improvement of 0.5 for Levenshtein Distance.
- Collaborated with 4 member team and worked with other transformer models too.

**11th Place in SIIM-FISABIO-RSNA COVID-19 Detection (Kaggle)**

[Code](#), [Leaderboard](#)

- Worked on classification, detection models and post-processing methods to detect if the person has covid or not, given their X-ray and where it finds abnormality.
- Developed 20 classification models and 15 detection models with extraordinary validation.
- Scraped an Out of Fold Weighted Ensembling Technique (best weights) which improved mAP by 0.01 and developed stacking based ensembling (but decreased score a little).
- Collaborated with 5 member team and worked with other detection and classification models too.

## EXPERIENCE

**Kaggle Competition Master ( 38<sup>th</sup> Rank Global )**

**(April 2020 – Present)**

- Won 2 Kaggle Competitions (in Top 3). One as First place and the other Second Place.
- Achieved 3 Golds, 4 silvers, 1 Bronze.
- Also, I achieved 151 Rank in Kaggle Discussion Tier(Expert).

## PROJECTS

**Programmed whole Self Driving Car in ROS**

**(Jun 2021 – Jul 2021)**

- Programmed (individually) the whole subsystem of a Self-Driving Car in ROS and run it on the simulator with the desired behavior.

**Self-Driving Car Motion Planning with Deep Learning**

**(Sep 2020 – Nov 2020)**

[Code](#)

- Developed (individually) 12 Neural Network which takes a rasterized image and predicts the best path for the ego car.
- Achieved nice multi log-likelihood loss of 20.xx.

**Smartphone Decimeter Challenge**

**(Jul 2021 – Aug 2021)**

- Data collected from the host team's Android phones to compute location down to decimeter or even centimeter resolution.
- As a result, produce more accurate positions, bridging the connection between the geospatial information of finer human behavior.

**Image Steganalysis**

**(May 2020 – Jul 2020)**

[Code](#)

- Developed (individually) a Machine Learning Model to predict if there is any hidden content in the image or not.
- Reversed the Evolution of jpg images to finally achieve a score of 0.54 AUC.

## SKILLS & INTEREST

- Major Skills: Artificial Intelligence, Machine Learning, Deep Learning, Computer Vision, Natural Language Processing, Generative Adversarial Networks, Reinforcement Learning, Pytorch
- Programming Languages: Python, C++, C, Java, HTML, Javascript, CSS
- Others: Android Development, Web Development, ROS
- Language: English, Malayalam