# AI/ML Models for NFV Usecases <br> Internship Projects/Mentors 

| Title | AI/ML Models for NFV Usecases |
| :--- | :---: |
| Status | APPROVED |
| Difficulty | HIGH |

## Description

This project aims to deploy and run $\mathrm{Al} / \mathrm{ML}$ models for NFV-usecases. Any two of the following three problems can be considered. .

1. VNF/CNF Placement
2. VNF/CNF resource/performance/failure prediction
3. Packet-Loss Classification

| Problem | Model | Link | Comments |
| :--- | :--- | :--- | :--- |
| Prediction of VNF Resource Demands | RNN, LSTM | https://ieeexplore.ieee.org/document/8806620 |  |
| VNF Placement | Neural Network Model (MLP) | https://ieeexplore.ieee.org/document/8806631 |  |

## Additional Information

LFN Acumos: https://www.acumos.org/
TensorFlow Time Series : https://www.tensorflow.org/tutorials/structured_data/time_series
Collectd : https://collectd.org/
Hosting Repo: As a Subproject under CIRV - https://github.com/opnfv/cirv

## Learning Objectives

ML Techniques: Deep_learning.
ML model development
AI/ML for Telco Usecases.

## Expected Outcome

Enhance Acumos with model for NFV/Telco Usecases.
Run Acumos with these enhancements in Anuket Testbeds.
Comprehensive report on applications of $\mathrm{Al} / \mathrm{ML}$ in Networking(Comparative analysis).

## Relation to LF Networking

Will be part of Anuket.

## Education Level

[^0]
## Skills

Knowledge of ML and ML-Tools - Tensorflow.

## Future plans

This work is the first step toward use of $\mathrm{Al} / \mathrm{ML}$ in Telecom Networks, it can be enhanced to more useful and complex usecases.

# Preferred Hours and Length of Internship 

Part-Time

## Mentor(s) Names and Contact Info

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## Volunteers

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[^0]:    Undergraduate

