Project Participants:
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Project Summary:
The project aims to classify network devices based on responses gathered through Nmap probing using a ML model. This is an important problem since knowing what devices are participating in a particular network is crucial to maintaining network security. It sits at the intersection of networking (understanding packet behavior in probe‑response interactions) and machine learning (building classifiers from raw packet captures to map responses to device classes). Prior work can be found at https://arxiv.org/pdf/2008.02695. The goal of this project is to reproduce the results highlighted in the above paper (nPrint Autogluon)

Data:
The dataset is hosted at the following link:
https://drive.google.com/file/d/1vd38hHMB77Qk7V7Q3mXy4ucvMq0KC7Pu/view

Deliverables:
- A Jupyter notebook with results printed but also runnable.
- A typed out project report

Model details:
I will try to construct a multi-layer perceptron network to solve this problem

Evaluation:
- Create train/test split prior to processing and evaluate on the test set.
- Accuracy, Macro-F1 score, ROC/AUC