**What are Deep Neural Networks (DNNs)?**
- A set of algorithms designed to recognize patterns (Cluster and classify).
- Consists of multiple hidden layers between input and output.
- Examples: Language translation, speech recognition and music genre classification.

**Motivations for visualizing DNNs**
- Inspire and motivate the wide adoption and extensive use of DNNs.
- Working mechanisms remain unclear.

**Goals**
- Facilitate the exploratory analysis of different DNNs.
- Understand the pros and cons of each DNN.
- Summarize the large number of existing DNNs.

**Challenges**
- Rising number of DNNs.
- Summarizing representative DNNs.
- Complexity of DNN architectures.
- Deep layers (over 1500 layers), multiple branches and dense skip connections.
- Diversity of DNNs.
- Identifying the evolutionary relationships among DNNs.

**System Overview**
1) Extract papers → 2) Identify representative DNNs → 3) Identify common architectures → 4) Identify relationships → 5) Calculate performances → 6) Visualize.

**Performance Visualization**
- Bar charts
- Box plot
- Performance distribution
- Color coding
- Type of DNN
- Datasets used:
  - imagenet top5/top1
  - cifar10/cifar100

**Limitations and future work**
3) Training methods not included in visualization.
2) DNN scope only limited to 3 benchmarks (Classification, detection and segmentation).
1) DOI heuristic algorithm only considers limited aspects.
   a) Performance and complexity of architecture may be added in future.