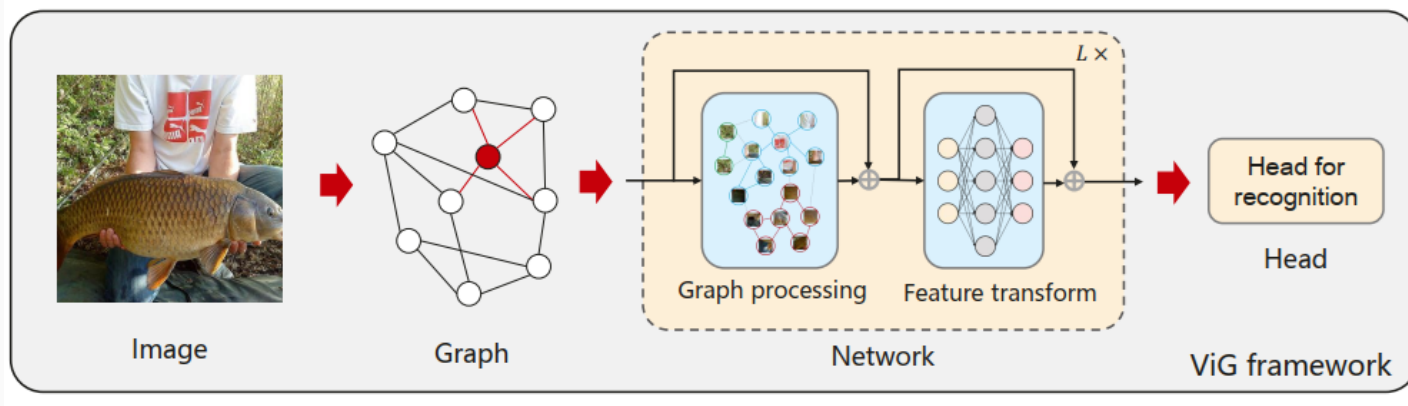


# Vision GNN-Powered Object Detection

Sagar Prakash Barad


Harnessing Vision GNNs as Backbone Feature Extractors for RetinaNet and Mask R-CNNs



RetinaNet  $\triangleright$  ResNet + FPN + Focal Loss  
Vision GNN

Dataset(s) – COCO Dataset, PubTables 1M Dataset, FinTab Dataset

Wang, X., Liu, Z., Zhang, S., Li, B., Wang, T., & Zhang, J. (2022). Vision GNN: An Image is Worth Graph of Nodes. *Advances in Neural Information Processing Systems*, 35. Retrieved from <https://arxiv.org/abs/2206.00272>



Work division till midterm presentation...  
All by me

## Midway Targets

1. Implementing the Vision GNN Variant of RetinaNet.
2. Reproducing the Results on COCO Dataset as Presented in the Paper.

## Post Midsem

1. Training on the PubTables 1M Dataset.
2. Training on the FinTab Dataset.
3. Exploring Other State-of-the-Art Models Utilizing ResNet as a Backbone.
4. Lottery Ticket Hypothesis (LTH) version of Vision GNN.

## Expected Results

1. Achieving Similar and Improved Performance as Demonstrated in the COCO Dataset Papers.
2. Conducting Comparisons with Models Empowered by ResNet.