Chengyu Yang

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EDUCATION

New Jersey Institute of Technology Sept. 2024 – Present
Ph.D. student in Computer Science Newark, NJ

South China University of Technology Sept. 2018 – Jun. 2022
Bachelor of Science in Information and Computing Science Guangzhou, Guangdong

PUBLICATION

[1] Chengyu Yang* and Chengjun Liu, "Increasing Rosacea Awareness Among Population Using Deep Learning and Statistical Approaches", *The 5th International Conference on Medical Imaging and Computer-Aided Diagnosis (MICAD, 2024)*.

EXPERIENCE

New Jersey Institute of Technology Sep. 2024 – Present
Graduate Teaching Assistant Newark, NJ

- Teaching assistant for three sessions of CS680 Artificial Intellegence
- Gave lectures to students on data visualization using python, graded assignments.

The College of William & Mary Sept. 2022 – May. 2024
Graduate Teaching Assistant Williamsburg, VA

- Teaching assistant for CSCI340 Algorithm(22Fall), CSCI243 Discrete Structure(23Spring,23Fall) and CSCI301 Software Development(24Spring).
- Graded students' homework and held office hours to mentor and answer students' questions on a weekly basis.

Huawei Jul. 2021 – Sep. 2021
Software Engineer Internship Shenzhen, China

- Built an anomaly detection model based on Mahalanobis distance.
- Realized Robust PCA optimization to remove outliers from training set using IALM (Inexact Augmented Lagrange Multipliers) algorithm.
- Merged aforementioned model into existing bot-detection application and reduced FPR and FNR by approximately 10% respectively.

PROJECTS

Brain Graph Generation from MRI for Pretrained Multimodal Model under Circumstances of Missing Data

- Preprocessed data: used data augmentation techniques such as random crop on image data and substitute any positive value with 1 for graph data.
- Conducted experiments under different model structures and train model with various hyperparameter settings: ResNet/UNet's encoder as encoder, innder products/GraphRNN's decoder as decoder.
- Visualized generated graphs and compared them with ground truths brain graphs; kept track of metrics such as accuracy, AUC, loss, etc.
- Achieved 0.81 test accuracy for generated brain graph and performance boost for pretrained models requiring brain graph as one of the input modals.

Distance and Density Based Anomaly Detection Algorithm Survey

- Broadly studied distance and density based anomaly detection algorithms such as Isolated Forest, Mahalanobis Distance, etc.
- Recorded anomaly scores for data points in various datasets based on 5 selected algorithm and used MLP to learn a weighted combination of those anomaly scores.
- Used Ensemble Learning methods such as Adaboost to improve the overall performance of these algorithms.

AWARDS

The First Prize Scholarship from South China University of Technology — Sept. 2020

Merit Student of South China University of Technology — Sept. 2020