# Quan Li

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## Research Interests

- **Machine learning:** graph neural networks, nature language processing, representation learning, machine learning vulnerability and robustness, large language model

## Education

2020-Present **Pennsylvania State University**, State College, PA
*College of Information Science and Technology*
Ph.D. candidate

2018-2020 **The Ohio State University**, Columbus, OH
Master of Science (M.S.) in Electrical and Computer Engineering
GPA – 3.97

2015-2017 **Clemson University**, Clemson, SC
Bachelor of Science (B.S.) in Computer Engineering
GPA – 3.58

2013-2015 **Beihang University**, Beijing, China
Computer Engineering (Transferred to Clemson University)
GPA – 3.68

## Publications

SIGIR 2022 **Q. Li**, X. Li, L. Chen, and D. Wu. "Distilling Knowledge on Text Graph for Social Media Attribute Inference".

PAKDD 2023 **Q. Li**, L. Chen, Y. Cai, and D. Wu. "Hierarchical Graph Neural Network for Patient Treatment Preference Prediction with External Knowledge".

WWW 2023 **Q. Li**, L. Chen, X. Li, and D. Wu. "Knowledge Distillation on Cross-Modal Adversarial Reprogramming for Data-Limited Attribute Inference".

ICDM 2023 **Q. Li**, L. Chen, S. Jing, and D. Wu. "Pseudo-Labeling with Graph Active Learning for Few-shot Node Classification".

In Submission **Q. Li**, X. Li, L. Chen, and D. Wu. "Hierarchical Knowledge Distillation on Text Graph for Attribute Inference".

## Research Experiences

Nov 2021 - Present **Social Media Attribute Inference**, *PSU*.

- Exploring text graph construction and refinement
- Investigating few-shot learning
- Designing and developing state-of-the-art methods for attribute inferences of few labels
  - Leveraging knowledge distillation to take advantage of unlabeled data
  - Working on adversarial reprogramming with ViT to cope with training data scarcity

Oct 2020 - Aug 2021 **Pipelining Machine Learning Models in SGX Environment**, *PSU*.

- Investigated trust computing within the limited space
- Explored pipelining partial machine learning model in the trust environment
- Designed and developed the model splitting algorithm
  - Applied machine learning to achieve the auto splitting algorithm based on the computing operations

Sep 2020 - Nov 2020 **Semantic-aware Binary Code Search**, *PSU*.

- Proposed the sampling-based approach for the semantic-based comparison method to improve the performance of the binary code search.
- Developed the binary search engine
  - Collected the binary files and constructed the binary database for the engine
  - Leveraged the database to analyze the semantic-based comparison methods

## Work Experiences

May 2022 - Aug 2022 **Machine learning Intern**, *IQVIA*.

- Leveraged external data (e.g. Doctor data, network data) besides patient data to predict the patient preference
  - Designed and developed a new hierarchical GNN architecture to leverage different types of data
  - Leveraged community detection to deal with the data imbalance issues

May 2019 - July 2019 **Big Data Intern**, *Zhengzhou Light Metal Research Institute*, China.

- Utilized the BigData framework to build the data analysis system and fast-response system
  - Applied Hadoop, Spark, and other techniques to design the architecture of the analysis system
  - Wrote a project proposal

## Other Experiences

ECML-PKDD 2023 External reviewer

IEEE SMC 2023 Reviewer

ICDM 2022 External reviewer

ECML-PKDD 2022 External reviewer

BigData 22 External reviewer

Fall 2022 Teaching Assistant, PSU, SRA365:Statistical Analysis for Information Sciences

Spring 2022 Teaching Assistant, PSU, IST240:Introduction to Computer Languages

Fall 2020 Teaching Assistant, PSU, CYBER366:Malware Analytics

Fall 2019 Teaching Aid, OSU, ECE6001:Probability Theory

Fall 2019 Team leader of the ECE new graduate students' orientation, OSU

## Honors

Spring 2017 Clemson Dean's List

Spring 2016 Clemson President's List

## Skills

Software Skills Python, C, JAVA, MATLAB, Assembly Language, Android Development, Data Mining, Machine Learning (PyTorch, Tensorflow, etc)

Others Mathematics, Circuit Design