

Yuzhou Nie

School of Statistics, 59 Zhongguancun Road, Renmin University, China 100872
nieyuzhou@ruc.edu.cn ☎ (+86) 18810265692 📄 GitHub: rucnyz

Education

Renmin University of China(RUC), Beijing, China

Sept.2019–June.2023(Expected)

Bachelor of Science, School of Statistics, Major in Data Science and Big Data Technology

- **GPA:** Major GPA 3.92/4.00(Ranking: 2/52), Cumulative GPA 3.80/4.00(Ranking: 6/52)
- **Selected Courses:**
 - **Computer Science courses:** C&C++ Programming, Data Structure and Algorithm, Machine Learning, Deep Learning, Parallel Computing
 - **Math and Statistics courses:** Mathematical Analysis, Advanced Algebra, Probability, Mathematical Statistics, Optimization, Time Series Analysis, Stochastic Process

Publications

** indicates equal contribution*

- **Yuzhou Nie***, Fengjiao Gong* and Hongteng Xu, *Gromov-Wasserstein Multi-modal Alignment and Clustering*, accepted by The Conference on Information and Knowledge Management (CIKM) 2022.
- **Yuzhou Nie***, Chengyue Huang*, Hailun Liang and Hongteng Xu, *Adversarial and Implicit Modality Imputation with Applications to Depression Early Detection*, accepted by CAAI International Conference on Artificial Intelligence (ICAI) 2022.

Working Experience

Amazon Web Services AI Lab, Shanghai, China

Aug.2022–Present

Internship, advised by senior applied scientist Da Zheng, AWS Deep Learning group, United States

- **Graphical Structure for Electronic Health Records** (In preparation)
 - Many features in EHR datasets are strongly related with domain knowledge, can we make better use of EHR data by treating it as a graphical structure with specific prior knowledge than as a flat-structured bag-of-features?

Research Experience

Structured Data Science Lab, Beijing, China

May.2021–June.2022

Member, advised by Associate Professor Hongteng Xu, Gaoling School of Artificial Intelligence, RUC

- **Optimal Transport for Multi-View Alignments** **Feb.2022–June.2022**
 - Developed a novel multi-modal clustering method Gromov-Wasserstein Multi-modal Alignment and Clustering (**GWMAC**) based on the Gromovization of optimal transport distance, which proved to be applicable to totally-unaligned multi-modal data.
 - Provided the theoretical and numerical guarantees that our method featured a significantly lower computational complexity in complicated multi-modal learning scenarios.
 - Showed an increased accuracy and normalized mutual information jointly compared to SOTA via numerical experiments on various dataset.
- **Adversarial Multi-view Imputation for Disease Prediction** **June.2021–Jan.2022**
 - Resolved the modality-missing issue by proposing a novel and robust multi-modal data imputation approach called Adversarial Modality Implicit Imputation (**AMII**), which introduce an implicit imputation mechanism to generate the missing modalities in the learning of multi-modal predictive models.
 - Demonstrated the effectiveness and superiority of our method on the early detection of depression based on the UK Biobank dataset.

Selected Projects

- **Spatial and Temporary Domain Adaptation for Clinical Data** **Oct.2022–Present**

Internship, working with Zhenbang Wu, UIUC; Postdoctoral Scholar Huaxiu Yao, Stanford

 - Working on solving domain adaptation problems for time-series data in both spatial and temporary domains.

- **Satellite Imagery Object Detection Project, Beijing, China** **Nov.2020–Mar.2021**
 - Tested baselines including DeepLab and Faster R-CNN on adjusted Dataset Sen1Floods11
 - Gave an oral presentation reviewing the principles of convolutional neural network and its applications for computer vision
- **Individual Projects Implemented by C++**
 - Developed a tower defence game with QT. (<https://github.com/rucnyz/TowerDefense>)
 - Developed a five steps Chess game using min-max algorithm (<https://github.com/rucnyz/FIR>)

Skills

Proficient: Python (PyTorch, Scikit-learn, etc.), C/C++, Java, SQL, Git/Terminal, LaTeX, R

Familiar: MATLAB, PySpark, Linux/Unix

Awards

College Scholarship (Top 8%)	2019-2020&2020-2021
National Second Prize in China Undergraduate Mathematical Contest in Modeling (Top 4%)	2020
Meritorious Winner in Mathematical Contest In Modeling (Top 7%)	2021