

Xinyue Xu

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EDUCATION

- Hong Kong University of Science and Technology** Hong Kong, China
• *PhD in Electronic and Computer Engineering; Supervisor: Prof. Xiaomeng Li* September 2022 - Present
Core Course: N.A.
- Australian National University** Canberra, Australia
• *Bachelor of Advanced Computing (Honours); GPA: 6.48/7.0* July 2018 - June 2022
Specialisations: Intelligent Systems; Core Course: Game Theory, Artificial Intelligence, Computer Vision, Document Analysis, Deep Learning, Algorithms, Relational Databases, Machine Learning, Systems Networks, Computer Organisation

EXPERIENCE

- MIT CSAIL Computational Connectomics Group** Remote
• *Research Internship (Part-time); Supervisor: Dr. Lu Mi, Advisor: Prof. Hao Wang* Sep 2021 - May 2022
 - Baseline Comparison:** Compared the graph neural network model with the traditional statistical benchmark.
 - Result Analysis:** Analysed the results to explore possible improvement schemes.
- National University of Singapore** Remote
• *Research Assistant (Part-time); Supervisor: Dr. Gang Guo* Jan 2021 - Mar 2021
 - Cluster Analysis:** Clustered the medication data of patients in high dimensional space using multiple methods.
 - Inference Treatment:** Checked the treatment effect of patients and generated statistical inference indicator.
- Shanghai Jiao Tong University - SCE International Summer School** Shanghai, China
• *Teaching Assistant (Full-time); Supervisor: Dr. Xiaojun Zhu, Prof. Xiangdong An* Dec 2019 - Jan 2020
 - Courses:** As the teaching assistant of Statistics of Stochastic Process & Algorithms and Analysis course for undergraduate students.
 - Correct Homework:** Assisted the professor to manage the class and graded students' homework and quizzes.

PROJECTS

- Towards Faster Hyperparameter-free Clustering using Enhanced Iterative Label Spreading:** (Work in progress)
Supervisor: Dr. Amanda Parker & Advisor: Prof. Amanda Barnard
- Shopee - Price Match Guarantee:** (Team Project, Mar 2021 - May 2021)
 - Built a model that predicts which items are the same products.
 - Used the EfficientNet for image feature extraction, TF-IDF for textual feature extraction and calculated the cosine similarity of all the features to get the prediction results.
- ZYELL - NCTU Network Anomaly Detection Challenge:** (Jan 2021 - Mar 2021)
 - Created the features for the flow-based features by aggregating the properties of the packets.
 - Generated the multiple flow features using the original data with different sizes of the time window.
 - Explored the TabTransformer as the classification model and ensembled the results of the GBDT and TabTransformer.
 - Won the second place of NAD Challenge.

PUBLICATIONS

- Xinyue Xu** and Xiaolu Zheng, "Hybrid model for network anomaly detection with gradient boosting decision trees and tabtransformer," in *ICASSP 2021 - 2021 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2021, pp. 8538-8542.
- Xinyue Xu**, Xiang Ding, Zhenyue Qin, and Yang Liu, "Classification Models for Medical Data with Interpretative Rules," in *Neural Information Processing*, Teddy Mantoro, Minh Lee, Media Anugerah Ayu, Kok Wai Wong, and Achmad Nizar Hidayanto, Eds. 2021, pp. 227-239, Springer International Publishing.
- Zhongren Chen, **Xinyue Xu**, Shengyi Jiang, Hao Wang, and Lu Mi, "Subgraph frequency distribution estimation using graph neural networks," in *ACM SIGKDD International Conference on Knowledge Discovery and Data Mining Workshop on Deep Learning on Graphs*, 2022.

HONORS AND AWARDS

- Hong Kong PhD Fellowship - April, 2022
- HKUST RedBird PhD Award - April, 2022

ADDITIONAL

- Languages:** Python, SQL, Java, Haskell, C++, ARMv7, Ada, HTML/CSS
- Membership:** IEEE Student Member, APNNS Student Member, Australian Computer Society Member