

Yuanqi Du

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EDUCATIONS

George Mason University

B.S. in Computer Science

GPA: 4.0/4.0 | Major: 16/18 A+

Fairfax, VA

Aug 2017 - May 2021

Huaqiao University

B.S. in Computer Science

GPA: 4.64/5.00

Xiamen, China

Aug 2016 - Jun 2017

RESEARCH INTERESTS

Representation Learning; Interpretable Machine Learning; Casual Discovery; Deep Graph Learning; Deep Generative Model; AI for Science (Biology/Chemistry/Physics).

PUBLICATIONS

* denotes equal contribution, [†] denotes corresponding author, mentored students are underlined

Conference Papers

- Xiaojie Guo*, **Yuanqi Du***, Liang Zhao. Deep Generative Model for Spatial Networks, accepted in KDD 2021 conference.
- Xiaojie Guo, **Yuanqi Du**, Liang Zhao. Property Controllable Variational Autoencoder via Invertible Mutual Dependence, accepted in ICLR 2021 conference.
- Pengbo Liu, Hu Han, **Yuanqi Du**, Heqin Zhu, Yinhao Li, Feng Gu, Honghu Xiao, Jun Li, Chunpeng Zhao, Xinbao Wu, S. Kevin Zhou, Deep Learning to Segment Pelvic Bones: Large-scale CT Datasets and Baseline Models, accepted in IPCAI 2021 conference, published in IJCARS journal [impact factor 2.473].
- Panneer Selvam Santhalingam, **Yuanqi Du**, Riley Wilkerson, Al Amin Hosain, Ding Zhang, Parth Pathak, Huzefa Rangwala, and Raja Kushalnagar. Expressive ASL Recognition using Millimeter-wave Wireless Signals. IEEE International Conference on Sensing, Communication and Networking (SECON) 2020.
- **Yuanqi Du**, Nguyen Dang, Riley Wilkerson, Parth Pathak, Huzefa Rangwala, Jana Kosecka. American Sign Language Recognition Using an FMCW Wireless Sensor. AAAI Conference on Artificial Intelligence (AAAI) 2020 (Student Abstract).

Journal Papers

- Taseef Rahman, **Yuanqi Du**, Amarda Shehu. Generative Adversarial Learning of Protein Tertiary Structures, accepted in Molecules journal [impact factor: 3.267].

Workshop Papers

- Yinkai Wang*, Kaiyi Guan*, Aowei Ding*, **Yuanqi Du**[†]. Ensemble Machine Learning System for Student Academic Performance Prediction. Educational Data Mining (EDM) 2021, Workshop for Undergraduates (W4U).
- **Yuanqi Du**, Xiaojie Guo, Amarda Shehu, Liang Zhao. Interpretable Property Controlling Molecule Generation. AAAI 2021 Scientific Discovery with AI (SDA) Workshop, **Oral Presentation**.
- **Yuanqi Du**, Xiaojie Guo, Amarda Shehu, Liang Zhao. Interpretable Molecule Generation via Disentanglement Learning. ACM Conference of Bioinformatics and Computational Biology (BCB) Workshops: Computational Structural Biology Workshop (CSBW) 2020.

- **Yuanqi Du**, Xiaojie Guo, Amarda Shehu, Liang Zhao. From Interatomic Distances to Protein Tertiary Structures with a Deep Convolutional Neural Network. ACM Conference of Bioinformatics and Computational Biology (BCB) Workshops: Computational Structural Biology Workshop (CSBW) 2020.

Workshops

- Payal Chandak, **Yuanqi Du**[†], Tianfan Fu, Wenhao Gao, Kexin Huang, Shengchao Liu, Ziming Liu, Gabriel Spadon, Max Tegmark, Hanchen Wang, Adrian Weller, Max Welling, Marinka Zitnik. AI for Science: Mind the Gaps workshop, with NeurIPS 2021 conference.

Preprints

- **Yuanqi Du**, Xiaojie Guo, Hengning Cao, Yanfang Ye, Liang Zhao. Spatiotemporal Graph Generative Representation Learning, under review in NeurIPS 2021 conference.
- Xiaojie Guo*, **Yuanqi Du***, Liang Zhao. Interpretable Deep Graph Generation via Information Bottleneck, under review in TKDE journal.
- Xiaojie Guo*, **Yuanqi Du***, Liang Zhao. Scalable Deep Generative Models for Spatial Networks, under review in TNNLS journal.
- **Yuanqi Du**, Xiaojie Guo, Amarda Shehu, Liang Zhao. Interpretable Molecular Graph Generation via Monotonic Constraints, under review in ICDM 2021 conference.
- **Yuanqi Du**, Quan Quan, Hu Han, S. Kevin Zhou. Where is the disease? Semi-supervised pseudo-normality synthesis from an abnormal image, under review in BMVC 2021 conference.
- **Yuanqi Du**, Xiaojie Guo, Amarda Shehu, Liang Zhao. Disentangled Representation Learning for Interpretable Molecule Generation, under review in IJMS journal.
- **Yuanqi Du**, Xiaojie Guo, Hengning Cao, Liang Zhao, et al. GraphGen: A Large-scale Graph Generative Dataset Collection. In preparation.
- Runsheng Xu*, Zhengzhong Tu*, **Yuanqi Du***, Xiao Yu, Jinlong Li, Zibo Meng, Hongkai Yu. ROM-Net: Renovate the Old Memories, under review.
- Xiaojie Guo, **Yuanqi Du**, Sivani Tadepalli, Liang Zhao, Amarda Shehu. Generating Tertiary Protein Structures via Interpretable Graph Variational Autoencoders, under review.
- Quan Quan, Qiyuan Wang, Liu Li, **Yuanqi Du**, S. Kevin Zhou, CT Film Recovery via Disentangling Geometric Deformation and Photometric Degradation: Simulated Datasets and Deep Models, arXiv preprint arXiv:2012.09491, under review.

PROFESSIONAL & RESEARCH EXPERIENCES

University of Amsterdam <i>Visiting Student (AMLAB & AI4Science)</i> Topic: Modeling Chemical Systems with Equivariant Neural Nets, Advisor: Max Welling	Amsterdam, Netherlands <i>June 2021 - Present</i>
The Chinese University of Hong Kong <i>Visiting Student (MM Lab)</i> Topic: Deep Generative Models in Scientific Discovery, Advisor: Bolei Zhou	Hong Kong <i>June 2021 - Present</i>
Emory University <i>Research Assistant</i> Topic: Deep Graph Learning and Applications, Advisor: Liang Zhao	Atlanta, US <i>Feb 2020 - Aug 2021</i>
Microsoft Research Asia <i>Research Intern (Machine Learning & Computational Biology Group)</i> Topic: Protein Structure Prediction, Advisor: Jianwei Zhu	Beijing, China <i>Nov 2020 - May 2021</i>
George Mason University <i>Research Assistant</i> Topic: Learning Protein Structures and Dynamics, Advisor: Amarda Shehu, Liang Zhao	Fairfax, US <i>Jan 2020 - May 2021</i>
Chinese Academy of Sciences	Beijing, China

Research Intern (MIRACLE Group)

Aug 2020 - Nov 2020

Topic: Medical Image Analysis, Advisors: **S. Kevin Zhou, Hu Han****George Mason University****Fairfax, US****Research Assistant**

Apr 2019 - May 2020

Topic: Application of Millimeter-wave Radar Signals, Advisor: **Parth Pathak**

TEACHING & MENTORING EXPERIENCES

George Mason University**Fairfax, US****Research Mentor**

Aug 2020 - Feb 2021

Topic: Education Data Mining with Focus on Student Performance Prediction

George Mason University**Fairfax, US****Undergraduate Teaching Assistant**

Aug 2018 - Dec 2019

Courses: Object-oriented Programming, Data Structures, Data Mining

George Mason University**Fairfax, US****Peer Mentor**

Feb 2019 - Dec 2019

Courses: Engineering Courses & Careers Services

PROFESSIONAL SERVICES

- Reviewer for NeurIPS-W (2021-), KDD (2021-), TKDD (2021-), BMVC (2021-), CIKM (2021-), ICDM (2021-), DLG-KDD (2021-), IRS-KDD (2021-), BioKDD (2021-)
- Co-organize workshops DLG-KDD 2021 (Web Chair), DeepSpatial-KDD 2020/2021 (Web/Publicity Chair)
- Co-organize conferences KDD 2021 (Web Team), AAAI 2021 (Student Technical Team)
- Contribute to the open-source community (e.g. DeepChem, Graph4NLP, GNNBook)

AWARDS & ACHIEVEMENTS

- MSRA Star of Tomorrow Award 2021
- Distinguished Academic Achievement Award 2021
- Outstanding Graduate Student 2021
- NeurIPS, AIJ AIIDE Travel Award 2020
- NSF REU Fellowship 2019-2020
- Distinguished Undergraduate Research Award 2019-2020
- Distinguished Undergraduate Teaching Assistant Award 2019-2020
- GMU OSCAR Fellowship Summer 2019
- Outstanding Undergraduate Teaching Award 2018-2019
- League of Legends Challenger (world top 0.01%) 2016
- StarCraft II GrandMaster (world top 0.2%) 2015

VOLUNTEERS & LEADERSHIPS

- GMU NSF REU Student Mentor 2021
- ICLR, ICML, KDD Student Volunteer 2021
- GMU SCAN (Career) Mentor, 2021
- Microsoft Learn Student Ambassador (2021-)
- Student Member of ACM, IEEE, IEEE Computer Society, AAAI, SIAM, ASA Community (2020-)
- Activities: NetBrain Club Research Director

MISCELLANEOUS

- Coursera Certificates: Machine Learning; Deep Learning; Deep Neural Network with PyTorch; Probabilistic Graphical Models;