

Qiao Zhang

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EDUCATION

Georgia Institute of Technology PhD student in Computer Science	GPA not available yet	Atlanta, GA 08/22 – present
Drexel University PhD student in Information Science	GPA: 4/4	Philadelphia, PA 09/20 – 08/22
University of Pennsylvania M.S.Ed. in Statistics Measurement and Research	GPA: 3.4/4	Philadelphia, PA 08/17 – 05/19
Dongbei University of Finance and Economics B.S. in Economic Statistics	GPA: 3.6/4	Dalian, China 09/13 – 07/17

COURSEWORK & SKILLS

Knowledge-based AI, Deep Learning, Developing User Interfaces, Qualitative Research Methods, Human-centered Computing
Tools: Python, JavaScript, HTML, CSS, MySQL, R, SAS, SPSS, Git, MTurk, Qualtrics

EXPERIENCE

<i>Student Researcher</i>	POCUS AI (a DARPA project)	06/21 – present
<ul style="list-style-type: none">Think-aloud: lead 2 think-aloud sessions with 2 doctors to extract domain knowledge for diagnosing PneumothoraxQualitative Analysis: transcribed and analyzed scripts, summarized into 6 ultrasound features and 6 visual characteristics		
<i>Full Stack Engineer</i>	Xenon Health of New Jersey LLC	10/19 – 08/20
<ul style="list-style-type: none">Developing: developed and maintained web applications (billing software, warehouse management) for 60-people companyCybersecurity: set up HIPAA-compliant AWS environment via CLI (S3, EC2, Workspace); encrypt data and set permission		

PROJECTS

Gomoku Training Experiment	04/21 – present
<ul style="list-style-type: none">Model training: trained 20 models using an AlphaZero implementation of Gomoku and compared their true skillsWeb development: designed and developed a web-based Gomoku tutor using Flask and SQLite; launched load testingUser study: collected 327 participants' data from MTurk, conducted learning analytics across different learning conditions	
Investigating Knowledge Tracing Models Using Simulated Students	09/20 – present
<ul style="list-style-type: none">Simulation: generated 30 AI learners with Apprentice Learner architecture to investigate the online use of 5 learning modelsData Mining: predicted simulated students' correctness on each knowledge component after training with 240 questionsVisualization: plotted the learning curves and sequences for each knowledge component to understand the learning process	

PUBLICATIONS

Zhang, Q., MacLellan, C.J. (2022). (A)I Will Teach You to Play Gomoku: Exploring the Use of Game AI to Teach People. In *Proceedings of the Ninth ACM Conference on Learning@Scale*.

Zhang, Q., Chen, Z., Lalwani, N., & MacLellan, C. (2022). Modifying Deep Knowledge Tracing for Multi-step Problems. In *Proceedings of the 15th International Conference on Educational Data Mining* (p. 684).

Smith, G*, **Zhang, Q***, MacLellan, C.J. (2022). Do it Like the Doctor: How We Can Design a Model That Uses Domain Knowledge to Diagnose Pneumothorax. In *AAAI Spring Symposium: Machine Learning and Knowledge Engineering for Hybrid Intelligence*. 2022.

Zhang, Q., MacLellan, C.J. (2021). Investigating Knowledge Tracing Models using Simulated Students. *AAAI2021 Spring Symposium on Artificial Intelligence for K-12 Education*.

Zhang, Q., MacLellan, C.J. (2021). Going Online: A simulated student approach for evaluating knowledge tracing in the context of mastery learning. *Fourteenth International Conference on Educational Data Mining*.

SERVICES & AWARDS

2017 - Honor Graduate (top 5%), Merit Student, Comprehensive Scholarship at Dongbei University of Finance and Economics
2017 - Meritorious Winner (1st place) in 2017 Mathematical Contest in Modeling (MCM), USA
2018 - Teaching Assistant in IMPA 6030 Quantitative Method Course, alumni interviewer at University of Pennsylvania
2021 - Grace Hopper Celebration Scholarship
2021 - Member at Upsilon Pi Epsilon – International Honor Society for the Computing and Information Disciplines
2022 - Peer reviewer for the journal, Information and Learning Sciences
2022 - Activision Blizzard King Women in Games Scholarship