

# RUIYANG QIN

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## RESEARCH INTERESTS

On-Device Learning, Personalized AI/ML, Deep Learning in Healthcare

Objective: *My search aims to enable and optimize AI systems including LLMs on edge devices, to build a user-wise efficient embedded Edge LLM system, which I believe can satisfy the personalized healthcare and companionship needs in the future.*

## EMPLOYMENT

*University of Notre Dame*

Ph.D. Student, Computer Science and Engineering

Advisor: Yiyu Shi

Focus: On-device learning and personalized deep learning in healthcare

Notre Dame, Indiana

Aug. 2022 - Present

## EDUCATION

*Georgia Institute of Technology*

M.S. in Computer Science

B.S. in Computer Science

Atlanta, Georgia

2021

2020

## REVIEW SERVICES

- IEEE RO-MAN

## AWARDS

- DAC Fellowship, 2024, USA
- DAC Fellowship, 2023, USA

## TEACHING

- CSE 30151 - Theory of Computing, Notre Dame, Spring 2023
- CSE 30246 - Database Concepts, Notre Dame, Fall 2022
- CS 6476 - Computer Vision, Georgia Tech, Spring 2021

## PUBLICATIONS

### Conferences

- Gelei Xu, **Ruiyang Qin**, Zhi Zheng, Yiyu Shi, *An Adaptive System for Wearable Devices to Detect Stress Using Physiological Signals*, The ACM Conference on Human Factors in Computing Systems (CHI), 2024.
- **Ruiyang Qin**, Jun Xia, Zhenge Jia, Meng Jiang, Ahmed Abbasi, Peipei Zhou, Jingtong Hu, Yiyu Shi, *Enabling On-Device Large Language Model Personalization with Self-Supervised Data Selection and Synthesis*, The 61st IEEE/ACM Design Automation Conference (DAC), 2024.

- **Ruiyang Qin**, Yuting Hu, Zheyu Yan, Jinjun Xiong, Ahmed Abbasi, Yiyu Shi, *FL-NAS: Towards Fairness of NAS for Resource Constrained Devices via Large Language Models*, The 29th Asia and South Pacific Design Automation Conference (ASP-DAC), 2024.
- Haozheng Luo, **Ruiyang Qin**, Chenwei Xu, Guo Ye, Zening Luo, *Open-Ended Multi-Modal Relational Reasoning for Video Question Answering*, The 32nd IEEE International Conference on Robot and Human Interactive Communication (RO-MAN), 2023.
- Zhiding Liang, Zhixin Song, Jinglei Cheng, Zichang He, Ji Liu, Hanrui Wang, **Ruiyang Qin**, Yiru Wang, Song Han, Xuehai Qian, Yiyu Shi, *Hybrid gate-pulse model for variational quantum algorithms*, The 60th IEEE/ACM Design Automation Conference (DAC), 2023.

#### Under Review

- Marialena Bevilacqua, Kezia Oketch, **Ruiyang Qin**, Will Stamey, Xinyuan Zhang, Yi Gan, Kai Yang, Ahmed Abbasi, *When Automated Assessment Meets Automated Content Generation: Examining Text Quality in the Era of GPTs*, ACM Transactions on Information Systems (TOIS), Under Review.
- **Ruiyang Qin**<sup>\*</sup>, Ryan Cook<sup>\*</sup>, Kai Yang, Ahmed Abbasi, David Dobolyi, Salman Seyedi, Emily Griner, Hyeokhyen Kwon, Robert O. Cotes, Zifan Jiang, and Gari D. Clifford, *Language Models for Online Depression Detection: A Review and Benchmark Analysis on Remote Interviews*, ACM Transactions on Management Information Systems (TMIS), Under Review.