Mudi Yang

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Education

Columbia University 2023 - 2025 Part-time.
- Master of Science in Computer Science. GPA 3.76.
- Personalized track on Quantum Computing. Advised by Henry Yuen.

Yale University 2018 - 2022
- Bachelor of Science in Computer Science. GPA 3.60.
- Teaching assistant for CPSC 474/574 Computational Intelligence for Games and CPSC 201 Mathematical Tools for Computer Science.

Work & Research

Graphics Compiler Engineer, Qualcomm: Graphics High Level Compiler team. *2022-Present*
- Develop new features and maintain support for Qualcomm's Adreno Graphics Compiler, focusing on the OpenGL API.
- Intern Summer 2021. Developed AMBER based unit testing frame work for graphics and compute shaders

Student Researcher, Rubenstein and Yuen Group,Columbia. *2024-Present*
- Developing the QExpress cross platform optimizing compiler for neutral atom, superconducting, and trapped ion quantum computers.

Student Researcher, Bhattacharjee Group, Yale. *2021-2024*
- Developed, tested, and analyzed a quantum random walk model for the two alternative forced choice decision problem. Continuation of Senior Thesis work.

Undergraduate Learning Assistant, Department of Computer Science, Yale. *2021-2022*
- Teaching assistant for CPSC 474/574 Computational Intelligence for Games and CPSC 201 Mathematical Tools for Computer Science.

Student Researcher, Gerstein Bioinformatics Lab, Yale. *2019-2021*
- Full stack development on PARSE Project for identifying potentially causal and LD RBPs related to disease.

Summer Research Intern, Ernst lab, UCLA Bruins in Genomics Program. *Summer 2020*
- Developed machine learning extension to extend the Sharpr-MRPA statistical model for genomic analysis with the Jason Ernst Lab in the UCLA Institute for Quantitative and Computational Biosciences.

Student Researcher, Radev Group & LILY, Yale. *Summer 2019*
- Designed extractive-abstractive model for DNN-based multi-document summarization.

Publications

Exploring the impact of sentiment analysis on current methods of fake news detection. M. Yang, L. Flores, H. Hunma, B. Trevisan. *Yale Undergraduate Research Journal.* Vol 3.1. 2022
- Developed BERT-based sentiment analysis DNN to extend fake news detection algorithms.

Radiation Emissions of Primordial Black Holes as Dark Matter in a Dwarf Galaxy. M. Yang, K. Holley-Bockelmann, F. Munshi. *Young Scientist.* Vol 8. 52-54. 2018

- Modeled and evaluated the physical consequences of the Primordial Black Hole as Dark Matter hypothesis utilizing computational resources of the Vanderbilt University Department of Physics and Astronomy.

Thesis and Pre-print

The QUATRO Application Suite: Quantum Computing for Models of Human Cognition. R. P. Pothukuchi... M. Yang, et al. [arXiv](#) Submitted 2024.

A D-Wave Annealing Based Quantum Random Walk Model of Cognition. *Undergraduate Senior Thesis.*
- Developed quantum random walks on D-Wave systems as part of the QUATRO project.

Fellowships, Awards & Programs

STAQ Quantum Ideas Summer School, Duke University. *Summer 2023*
- Admitted to the Quantum Ideas Summer School at the Duke Pratt School of Engineering.

The Cornell, Maryland, Max Planck Pre-doctoral Research School. *Summer 2022*
- Admitted to summer school led by Cornell, Maryland, and Max Planck faculty at the Max Planck Institute for Software Systems, Saarbrücken, Germany.

YHack. *Winter 2022*
- Developed Android COVID resource app with contact tracing, social distancing mapping, and VR social distancing "ruler" Top 5 project finalist. Won 3 awards: Best COVID-19 Related Hack (Citadel), Best Use of Google Cloud (Google), Best Use of Google Cloud - COVID-19 Hackathon Fund (Google).

UCLA Bruins in Genomics (BIG) Research Program. *Summer 2020*
- Selected to conduct fully summer funded undergraduate computational genomics research at UCLA. NSF REU Program.

UCLA Bruins in Genomics Research Excellence Award. *Summer 2020*
- Awarded to exceptional student researchers of the BIG summer program.

Yale College Dean's Research Fellowship. *Summer 2020*
- $1,500 to fund original undergraduate STEM research at Yale.

Pembroke King's Programme. *Summer 2019*
- Admitted to summer program at Pembroke, King's colleges, University of Cambridge.

Davenport College Richter Fellowship. *Summer 2019*
- $1,000 award for Davenport College students seeking to study abroad. Davenport is a residential college at Yale.

Yale College First-Year Summer Research Fellowship. *Summer 2019*
- $4,500 award to fund first year summer undergraduate research in STEM at Yale.

Leadership & Service

Co-President of Yale Undergraduate Aerospace Association. *2020-2021*
- Leader of largest on campus engineering club as one of two co-presidents.
- Team lead of High Altitude Balloon project in 2019-20. Received a 2019 NASA Connecticut Space Grant for Student Projects.

Davenport Liaison for Davenport Pops Orchestra. *2019-2022*
- Coordinate grants, performance spaces, and relations between Davenport Pops Orchestra, Davenport College, and Yale.