Mudi Yang

my2836@columbia.edu • GitHub • Website • LinkedIn

Education

Columbia University 2023–2025 (Part-time)
Master of Science in Computer Science (GPA: 3.76)
Thesis Track (Quantum Compilation); Advisor: Henry Yuen

Yale University 2018–2022
Bachelor of Science in Computer Science (GPA: 3.60)
Teaching Assistant: CPSC 474/574 Computational Intelligence for Games; CPSC 201 Mathematical Tools for Computer Science

Work & Research

Graphics Compiler Engineer, Qualcomm (Adreno Graphics Compiler) 2022–Present
Focus: OpenGL API feature development and maintenance

- Develop and maintain features in Qualcomm's Adreno graphics high-level compiler targeting OpenGL.
- Summer 2021 Intern: Built an AMBER-based unit-testing framework for graphics and compute shaders.

Student Researcher, Rubenstein and Yuen Group, Columbia University 2024–Present

- Contributing to QExpress, a cross-platform optimizing compiler for neutral-atom, superconducting, and trapped-ion quantum computers.

Student Researcher, Bhattacharjee Group, Yale University 2021–2024

- Developed, tested, and analyzed a quantum random-walk model for the two-alternative forced-choice (2AFC) decision problem (continuation of senior thesis).

Undergraduate Learning Assistant, Yale Dept. of Computer Science 2021–2022

- Assisted instruction and student support in CPSC 474/574 and CPSC 201.

Student Researcher, Gerstein Bioinformatics Lab, Yale University 2019–2021

- Full-stack development for the PARSE project identifying potentially causal RNA-binding proteins and linkage disequilibrium variants related to disease.

Summer Research Intern, Jason Ernst Lab (Bruins in Genomics), UCLA Summer 2020

- Implemented a machine-learning extension of the Sharpr-MRPA statistical model for regulatory genomics analysis.

Student Researcher, Radev Group & LILY, Yale University Summer 2019

- Designed a hybrid extractive–abstractive deep learning model for 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* 3(1), 2022

- Implemented a BERT-based sentiment analysis module for fake-news detection pipelines. link

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

- Modeled expected radiation signatures under the primordial black hole dark matter hypothesis using Vanderbilt University computational resources. link

Thesis & Pre-print

The QUATRO Application Suite: Quantum Computing for Models of Human Cognition.
R. P. Pothukuchi et al., including M. Yang. link (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 competitive quantum computing summer school at Pratt School of Engineering.

Cornell–Maryland–Max Planck Pre-Doctoral Research School Summer 2022

- Selected for summer research school at the Max Planck Institute for Software Systems.

YHack Hackathon Winter 2022

- Built Android COVID resource app (contact tracing, social distancing mapping, VR distance tool). Top 5 finalist; Awards: Best COVID-19 Related Hack (Citadel), Best Use of Google Cloud (Google), Google Cloud COVID-19 Hackathon Fund.

UCLA Bruins in Genomics (BIG) Research Program (NSF REU) Summer 2020

- Fully funded undergraduate computational genomics summer research internship.

UCLA BIG Research Excellence Award Summer 2020

- Recognized among top student researchers in the BIG cohort.

Yale College Dean's Research Fellowship Summer 2020

- $1,500 in support of original undergraduate STEM research.

Pembroke King's Programme, University of Cambridge Summer 2019

- Admitted to international summer study program at Pembroke and King's Colleges.

Davenport College Richter Fellowship Summer 2019

- $1,000 travel/research award for study abroad.

Yale College First-Year Summer Research Fellowship Summer 2019

- $4,500 to support first-year STEM research.

Leadership & Service

Co-President, Yale Undergraduate Aerospace Association 2020–2021

- Led largest on-campus engineering organization as one of two co-presidents.
- High-Altitude Balloon Team Lead (2019–2020); project received 2019 NASA Connecticut Space Grant.

Davenport Liaison, Davenport Pops Orchestra (Yale) 2019–2022

- Coordinated grants, performance logistics, and liaison activities among the orchestra, Davenport College, and Yale administration.