

Zhengdong Wang

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Education

Yale University

May 2021

Bachelor of Arts, History

Selected coursework: Intensive Algorithms, Advanced Probability, Systems Programming and Computer Architecture, Topics in the Foundations of ML, Real Analysis, Data Structures, Computational Intelligence for Games, Discrete Math, Automata Theory, Quantum Mechanics, Gravity Astrophysics and Cosmology, Philosophy of Mind

Experience

DeepMind

London, UK

Research Engineer

Sept 2021–present

- Really cool projects.
- Learning from mistakes.
- The future hasn't happened yet!

Loon

Mountain View, CA

Software Engineering Intern (Remote)

June 2020–Aug 2020

- Designed and implemented **three novel fleet-wide prototype control algorithms** for next-generation balloons (C++)
- Defined benchmarks to demonstrate over **2X** scores in algorithmic efficiency over previous implementation
- Completed major refactoring of Loon's network controller and simulation codebase for new antenna paradigm

Software Engineering Intern

June 2019–Aug 2019

- Implemented end-to-end data analysis pipeline for **global fleet**, achieving **8X** speedup on previous workflow (Python, SQL)
- Presented critical trends weekly to leadership and Nokia partners, enabling rapid iteration of fleet configuration

National Aeronautics and Space Administration

Kennedy Space Center, FL

Command and Control Software Intern

June 2018–Aug 2018

- Developed **Class A, human-rated, safety-critical** ground control software for manned **SLS/Orion** mission (C++)
- Improved concurrency performance of system-level library and tested tools in **Launch Control Center** Firing Rooms
- Participated in full software development life cycle, following agile development processes

Yale Center for Astronomy and Astrophysics

New Haven, CT

Undergraduate Researcher

Sept 2017–May 2018

- Awarded **NASA grant** to develop novel method to generate realistic weak lensing models (Python)
- Trained **generative adversarial networks** and **disentangled variational autoencoders** to reproduce COSMOS survey

ETH Zürich Institute for Particle Physics and Astrophysics

Zürich, Switzerland

Undergraduate Researcher

March 2018

- Proposed original idea **catalyzing Yale-ETH collaboration** to recover bulge-to-disk morphology
- Coauthor *GaMorNet: A Convolutional Neural Network to study morphology and quenching in SDSS and CANDELS*
Ghosh A., Urry C. M., **Wang Z.**, Turp D., Schawinski K., Powell M., 2020, *Astrophysical Journal*, 895, 112,

Activities

TensorFlow Quantum Contributor

tensorflow.org/quantum

- Implemented novel evolutionary algorithm achieving **highest-ever Gaussian fidelity** from low-depth random ansatz (Python)
- Performed first merging of **TensorFlow Quantum** into full Alphabet codebase with **Quantum@X**, **Google AI** teams

Yale Debate Association

yaled Debate.org

- Directed **team of 40** for October 2020 event with **4,000+ attendees** from **350+ high schools** and **\$150,000+ profit**
- Handled legal liability, scheduling logistics, accommodations, awards, interfaced with Yale administration
- Represented Yale at **2020 World Universities Debating Championship** in Thailand, champion of 2019 CUNY ProAms

Skills

Programming Languages: Proficient in Python, C++, SQL; Familiar with C, Java, JavaScript

Libraries/Technologies: TensorFlow/Keras, AWS/GCP, Linux, \LaTeX , Beam, Gym, cirq, React Native, Middleman, Love2D

Practices: Debugging large problems, Unit/functional/integration testing, High performance computing, Game design

Human Languages: Bilingual in English and Mandarin