

Nadie Yiluo LiTenn

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GENERAL RESEARCH INTERESTS

Quantum chaos, error correction, resource theory, tensor network, quantum gravity and the corresponding connection to experiments and practical applications through quantum computation and quantum information

EDUCATION

Brandeis University **PhD Candidate in Theoretical Physics** | Thesis advisor: Brian Swingle July 2022 – Present
University of California, Santa Barbara **Honors BSc, Physics** | Thesis advisor: Xi Dong August 2017 – June 2022

PUBLICATIONS

N.Y. LiTenn, Tianci Zhou, Brian Swingle, Scrambling Dynamics with Imperfections in a Solvable Mode(2025), arXiv:2505.00070

PAST PROJECTS

Entanglement Entropy in the Random Tensor Network | *Mathematica, Holography, Tensor Network* May 2021 – June 2022

- PI: Prof. Xi Dong, Co-mentor: Sean McBride
- Simulation of boundary subregion entanglement entropy in the random tensor network to reproduce holographic results [Slides][Senior Thesis]

Magnetic Field Insensitive Radio-Frequency Dressed Qubit | *Python, Mathematica, Ion Trap* April 2019 – January 2020

- PI: Prof. Andrew Jayich
- Simulation of RF magnetic field dressed Sr87+ ions [Poster]

Temperatures of the Galilean Satellites | *Python, Planetary Science* June – September 2018

- PI: Prof. Michael Brown, Co-Mentor: Samantha Trumbo
- Analysis of thermal inertia map of the Galilean satellites with global diffusion model and albedo map to identify internal activities and thermal anomalies on the satellites [Presentation][Poster][Slides]

Orbit determination of Near-Earth Asteroid 40329 (1999ML) | *Python, Observation, Orbital Mechanics* June - August 2016

- PI: Prof. Michael Dubson
- Determined orbit and integrated forward for 50 million years to determine collision with Solar system objects. Results accepted by the Minor Planet Center. [Paper]

Optimization for Laser-Propelled Spacecraft at All Launching Times | *Ada, Orbital Mechanics* June - August 2015

- PI: Prof. Philip Lubin, Co-Mentor: Qicheng Zhang
- Improved Low Earth Orbit (LEO) laser-propelled spacecraft simulation by optimizing laser energy usage and minimizing backfiring pulses [Presentation][Paper][Poster]

AWARDS AND CERTIFICATIONS

Bachelor's Honor Thesis, Research Honors Award | *UCSB* 2022

Summer Undergraduate Research Fellowship (SURF), Dean's Fellow | *UCSB* 2019

Visiting Undergraduate Research Program (VURP) | *Caltech* 2018

Goldman Sachs Best Data Visualization | *MHacks X, University of Michigan* 2017

Grand Prize First Place | *i-Lab Entrepreneurship Hackathon, Shanghai, China* 2017

Grand Prize Second Place | *HackNanjing, Nanjing, China* 2017

TECHNICAL SKILLS

Languages : Python, Java, C++, Ada

Software : Qiskit, NumPy, PyTorch, VPython, MATLAB, Mathematica

Hardware Raspberry Pi, Arduino, Ruff

EXPERIENCE

Teaching Assistant | *Total of 15 classes at UCSB & Brandeis* January 2019 – Present

Invited Juror | *US Invitational Young Physicists' Tournament* January 2019 – Present

Co-Founder | *NGO: Boston Workers Assist* June 2024 – Present

Organizer | *Long Table Physcis@Boston, Boston Chinese Young Physicists Seminar* August 2022 – March 2024

Student Director | *KITP Undergraduate Physics Research Symposium, UCSB* October 2018 – December 2021

Research Mentor | *Jayich Lab, Research Mentorship Program, UCSB* June – August 2019

- Student: Brian Ji from Burnaby North Secondary School (Now at University of Pennsylvania)
- Project: Characterization of Collimated Atomic Beaming for Ra-225 Qubit Isolation

Co-Founder. Corporate Relation and Treasury | *THE Hack Hackathon, China* February 2017 – August 2018

- Planned and organized China's largest hackathon, accommodating 300 - 500 participants from 14 - 28 years old
- Successfully secured \$65K in cash sponsorship and established collaborations with over 60 companies, showcasing strong leadership and project management skills.

OTHER INTERESTS

FAA Private Pilot License Onto Instrument rating and Advanced Ground Instructor; **Bartender Certificate; Diet Coach Certificate; Guitarist in a band**