

## Nadie Yiluo LiTenn

Brandeis University, Waltham, MA | 857-295-0135 | @website | @mail | @linkedin

### GENERAL RESEARCH INTERESTS

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

### EDUCATION

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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

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**[Manuscript in preparation] Dressed Out-of-Time-Order Correlator** N.Y. LiTenn, Tianci Zhou, Brian Swingle

### PAST PROJECTS

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**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

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**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

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**Languages** : Python, Java, C++, Ada

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

**Hardware** Raspberry Pi, Arduino, Ruff

### EXPERIENCE

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

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

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

**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*

- Spearheaded the planning and organization of China's largest hackathon, catering to high school and college students.
- Successfully secured \$65K in cash sponsorship and established collaborations with over 60 companies, showcasing strong leadership and project management skills.

### OTHER INTERESTS

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**Private Pilot License** Continuing to pursue Instrument rating and Advanced Ground Instructor certificate