BOXIAN WANG

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RESEARCH INTERESTS

I am broadly interested in **complexity theory**. Specifically, I have been studying **derandomizing** space-bounded computation and **pseudo-random generators**, in particular as applied to **streaming algorithms**. Other areas I am interested in include **computability theory**, **quantum computation** and **zero-knowledge proofs**.

EDUCATION

B.A. in Computer Science and Mathematics — Sep. 2019 – Jun. 2023 (expected)
Dartmouth College — *Hanover, NH*

- Thesis advisor: Amit Chakrabarti
- GPA: 3.97

RESEARCH EXPERIENCE

Senior Thesis in Computer Science — Sep. 2022 – Present
Dartmouth College, Dept. of Computer Science

- Conducted research into derandomizing space-bounded computation
- Investigated the possibility of optimizing pseudo-random generators for randomness reduction in streaming algorithms

Summer Hybrid Undergraduate Research (SHUR) — Jun. 2021 – Sep. 2021
Dartmouth College, Dept. of Mathematics

- Developed computer programs for graphical representation and manipulation of Legendrian knots
- Devised and optimized algorithms on transforming grid diagrams of knots

TEACHING EXPERIENCE

Teaching Assistant — Mar. 2020 – Present
Dartmouth College, Dept. of Computer Science

- Served as undergraduate TA for the following CS courses at Dartmouth:

  CS50 (Software Design and Implementation), CS51 (Computer Architecture), CS58 (Operating Systems), CS31 (Algorithms)

Grader — Jun. 2020 – Mar. 2022
Dartmouth College, Dept. of Mathematics

- Served as grader for the following mathematics courses at Dartmouth:

  MATH31 (Topics in Algebra), MATH35 (Real Analysis), MATH43 (Complex Analysis)

WORK EXPERIENCE

Software Engineer Intern — Jun. 2022 – Sep. 2022
Duolingo — *Pittsburgh, PA*

- Developed new features for the popular language learning app on iOS

Software Engineer Intern May 2021 – Jul. 2021
Tencent *Shenzhen, China*

- Trained machine learning models to detect malicious remote server commands

MANUSCRIPTS

- *Notes on Shor's algorithm*, survey paper for CS40 (Computational Complexity) at Dartmouth [paper]
- *Introducing Computability of Topological Spaces, with Applications to* R^n, survey paper for CS49 (Computational Topology) at Dartmouth [paper] [slides]

HONORS

- Rufus Choates Scholar, 2019 – 2021
- Phi Beta Kappa