Avi Benjamin Shein

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EDUCATION

Northwestern University, TGS, Evanston, IL December 2025
Candidate for Master of Science in Computer Science

Tufts University, School of Engineering, Medford, MA May 2024
Bachelor of Science in Computer Science, Math Minor
GPA: 3.9, *summa cum laude*

Relevant Courses: Computational Geometry, Graph Theory, Theory of Computation, Abstract Algebra, Programming Languages; In Progress: Graduate Algorithms, Approximation Algorithms, Cryptography

Teaching Assistant: Discrete Math (3 semesters), Algorithms (3 semesters)

EXPERIENCE

NSF REU Research in Computational Geometry, (Prof. Csaba Toth), *Researcher* June - August 2023

- Developed spanner proofs which are used in computational geometry to solve proximity problems
- Focused on creating spanners of intersection graphs with fewest edges in a given hop distance
- Created upper and lower bound proofs for 2-hop spanners of wedges, unit squares, and unit cubes

8vdX, *Software Engineering Intern* June - August 2022

- Created input forms using ReactJS to collect data from start-ups and investors for 8vdX, an India-based, Y Combinator funded fintech company, that matches start-ups with venture debt investors
- Built dynamic charts for displaying Key Performance Indicators using start-up inputs

Technion Department of Computer Science, (Prof. Gershon Elber) *Researcher* June - August 2021

- Created customizable semiregular geometric tiles used to make 3D printed objects
- Published as 2nd author on paper titled "Shell-lattice construction based on regular and semi-regular tiling via functional composition"

Elm City Internationals (ECI) & Goals for Good, *Volunteer* 2017 - 2020

- Coached youth soccer, and tutored reading comprehension and writing skills
- Founded and organized Goals for Good fundraiser which raised $9,000 for ECI students' college tuitions

PROJECTS

Project Hybrot Fall 2023 - Spring 2024

- Developed a program and GUI for a computational biology group (Levin Lab) at Tufts University
- Created software to stimulate neurons in a closed loop to observe how they learn information, set up and record experiments, and analyze resulting data

Terminal Chess Winter 2022 - Summer 2023

- Programmed a C++ chess game played in Terminal with customizable board and pieces
- Implemented game variants, and created chess bots to play against as opponents

SKILLS & INTERESTS

Languages: C, C++, C#, JavaScript, Python, Java, HTML, CSS, x86 ASM
Software Programs/Tools: Shell Scripting, Unity, GitHub, Bitbucket, ReactJS
Interests: Puzzles, Chess, Rubik's Cubes, Premier League (Chelsea), Fantasy (TV series/Books), Puns