Sean L. Snaider

snaider.s@northeastern.edu | (516)-587-1551 | linkedin.com/in/seansnaider/ | github.com/SeanSnaider

EDUCATION

Northeastern University   **Boston, Massachusetts**
B.S. in Computer Science, Concentration in Software   *Expected Graduation, May 2028*
- o   **GPA:** 3.93/4.00, *Dean's List*
- o   **Related Coursework:** Computer Systems, Algorithms and Data Structures, Object-Oriented Design, Introduction to Databases, Theory of Computation, Foundations of Cybersecurity

SKILLS

Languages: Python, Java, C, x86-64 Assembly, SQL, JavaScript, TypeScript
Frameworks & Libraries: React, Next.js, Tailwind, Zustand, Web Audio API, Pandas, NumPy, Matplotlib, Pygame, Java Swing
Tools & Platforms: Git, Linux/WSL, Docker, GDB, Vite, JUnit, Unittest, VS Code, IntelliJ IDEA, Vercel

EXPERIENCE

Khoury College of Computer Sciences, Northeastern University   **Boston, Massachusetts**
TA for Program Design and Implementation 1 (Fall '25) & 2 (Spring '26)   *Sep 2025 - Present*
- Evaluated **6** AI coding platforms for new AI literacy lab, recommending tools that balance speed with code comprehension for **400+** students
- Debug Python and Java code for **30+** students weekly across two **400+** student courses, resolving issues in list comprehensions, class hierarchies, and data structures
- Teach systematic debugging practices (breakpoints, test isolation, fault localization) to build student independence in problem-solving

Disrupt, Northeastern University   **Boston, Massachusetts**
Software Engineer   *Sep 2025 - Present*
- Build responsive web interfaces using Next.js, React, and Tailwind CSS in production codebase
- Ship features through Git workflows (branching, PRs, code reviews) in collaboration with **5+** developers
- Lead SQL and Python workshops teaching database fundamentals and scripting to **10-50** students per session

PROJECTS

Guitar Learning Tool *- React, TypeScript, Zustand, Web Audio API, Tailwind*   *Nov 2025 - Present*
Interactive fretboard application for learning scales and ear training with real-time audio feedback
- Engineered real-time audio synthesis with <10ms latency using Web Audio API and ADSR envelope shaping across a **144**-position fretboard
- Built scale library with **40+** patterns (modes, pentatonics, jazz) using CAGED and 3-notes-per-string systems, persisting progress via Zustand and localStorage
- Implemented three practice modes (note ID, sequence drills, interval training) with adaptive difficulty from open position to full neck
- Deployed via Vercel with automated CI/CD pipelines triggered by GitHub commits

Sanguine - *Java, JUnit, Java Swing*   *Nov 2025 - Dec 2025*
Two-player strategy board game with AI opponent and real-time move synchronization
- Built pub-sub event system in Java Swing for real-time two-player state synchronization with zero UI lag
- Designed pluggable AI strategy system using interfaces for runtime difficulty selection, demonstrating Strategy pattern and polymorphism
- Achieved **90%+** code coverage using JUnit mocks, catching edge cases across controller, strategy, and model layers

Rubik's Cube Solver and Teaching Tool - *Python, PyGame*   *Oct 2025 - Dec 2025*
3D simulator with near-optimal solving algorithm and step-by-step tutorial mode
- Implemented Kociemba's two-phase algorithm computing **<=20** move solutions in **<1** second with real-time 3D rendering in PyGame
- Created teaching mode with state validation requiring correct completion of each solving stage (cross, corners, second layer, top face) before progression
- Demonstrated to **20+** peers who preferred it over existing online platforms for its intuitive keyboard-based controls and clear stage-by-stage progression