

# Nathan R. Gooneratne

360 Huntington Ave, Boston, MA 02115 | [gooneratne.n@northeastern.edu](mailto:gooneratne.n@northeastern.edu) | 610-348-4303 | [skyloh.itch.io](https://skyloh.itch.io) | [skyloh.github.io](https://skyloh.github.io) | [github.com/Skyloh](https://github.com/Skyloh)

Available: September 2024 - December 2024

## EDUCATION

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**Northeastern University**, Boston MA  
Khoury College of Computer Sciences  
Candidate for Bachelor of Computer Science and Game Development

Aug. 2022 - Present

Expected Graduation: May 2026  
GPA 3.97/4.00 - Honors Program  
Dean's List: All Semesters

Relevant Coursework: Object-Oriented Design, Algorithms, Intro to C++, Linear Algebra (*in-progress*), Computer Systems (*in-progress*), Fundamentals of Computer Science 1 Accel & 2 Accel, Discrete Structures, Game Artificial Intelligence (*in-progress*)

## COMPUTER KNOWLEDGE

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Languages - Proficient: **Java, C#, Python, C++**; Familiar: **JavaFX, Swing, Swift, HTML, React, Tailwind, CSS, JavaScript, C**  
Software - Proficient: **Visual Studio, VSCode, IntelliJ, Jira, Git, Github Desktop, Unity**; Familiar: **JD Decompiler, Unreal**  
Systems - Proficient: **Windows, MacOS**; Familiar: **Linux**

## PERSONAL AND ACADEMIC PROJECTS

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What Remains of Me: (Academic)	<ul style="list-style-type: none"><li>Improved upon student-led <b>Unity C#</b> platformer game with 40 other students in a mock-studio environment</li><li>Pioneered refactoring effort of the moving element behaviors used project-wide</li><li>Created scripted utility tools to facilitate front-end level development</li><li>Coordinated tasks with <b>Agile</b> workflow, <b>Jira</b>, and a <b>task/story-point</b> system</li></ul>	Sept. 2023 - Dec. 2023
Java Journal: (Academic)	<ul style="list-style-type: none"><li>Developed a <b>JavaFX</b> Bullet Journal Application with 2 other students through <b>Git</b></li><li>Modular OoD backend structure with observers, scalable UI, dialogs, and file IO</li><li>Analyzed different approaches to MVC with other structural OoD design patterns</li></ul>	May 2023 - June 2023
Project Beat: (Personal)	<ul style="list-style-type: none"><li>Implemented modular OoD code architecture for a 2.5D variable-player count Beat-Em-Up game in <b>Unity</b> with <b>C#</b> using design patterns and type-reflection</li><li>Utilized a custom <b>Python</b> script to facilitate splicing of 70+ non-uniform sprites using the PIL image library and <b>flood-fill</b> algorithms</li><li>Designed a priority-queue-based, binary insertion buffer system in <b>C#</b></li></ul>	Dec. 2023 - Present

## WORK EXPERIENCE

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**Northeastern University**, Boston, MA  
Teaching Assistant for Object-Oriented Design

Sept. 2023 - Dec. 2023

- Held office hours and lab 8 hours per week with other TAs to provide academic support for ~400 students regarding code debugging, feedback on student implementations, and explanations of design patterns and concepts
- Assisted in professorial tasks like exam proctoring, grading ~130 student assignments, and evaluating final projects
- Mentored students in proper OoD design patterns in the context of **Java** in **IntelliJ** with **Git** source control

## EXTRACURRICULAR ACTIVITIES

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**Game Studio Club @ Northeastern**

Sept. 2022 - Present

- Headed programming and code design of 8 games in teams with 3-5 other students
- Coordinated group tasks and made teaching materials/framework code documentation for Unity
- Elected Vice President in April 2023

**Northeastern Sandbox**

Sept. 2022 - Dec. 2022

- Led front-end and back-end development of React web application with 3 other students

## INTERESTS

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Drawing, Writing, Badminton, Animating, Swiss-German Language, Reading Science-Fiction/Fantasy, Baking, D&D