

EDUCATION

NORTHEASTERN UNIVERSITY – Boston, MA

Khoury College of Computer Sciences

Candidate for B.S. in Computer Science and Music with Concentration in Music Technology and Minor in Mechanical Engineering

Expected Graduation: May 2027

John Martinson Honors Program | Dean’s List | National Recognition Scholar

- Cumulative GPA: 3.65/4.0
- Activities: Recreational Climbing Team (Communications Chair) | Oasis Software Development | Chamber Ensemble | Ballroom
- Relevant Courses: Algorithms & Data | Object-Oriented Design | Fundamentals of Computer Science 1 & 2 | Discrete Structures | Projects in Cloud Computing | Computer Music Fundamentals | Acoustics & Psychoacoustics of Music | Intro to Music Technology

Sep 2023-Present

SKILLS

Programming Languages: C# (proficient), C++ (intermediate), CSS (proficient), HTML (proficient), Java (proficient), JavaScript (proficient), Python (intermediate), Racket (proficient), XAML (proficient)

Concepts: Algorithms, Browser extension development, Development for Chrome Web Store, Complexity analysis, Data structures, Debugging, Domain & website deployment, Object-oriented & dynamic programming, Testing

Other: JSON, Music composition & production, Music theory (12+ yr.), Piano (14+ yr.), Writing

Applications: Ableton, Audacity, Eclipse, IntelliJ, Jupyter, Kontakt, Max 8, Pro Tools, Unity, Unreal Engine + Blueprint Visual Scripting System, VirtualBox, Visual Studio + VS Code

Tools & Libraries: AWS, Cloudflare DNS, Git, LaTeX, Node.js, Pandas + NumPy libraries, Supabase

Frameworks: Junit, React Native, Windows Presentation Foundation (WPF)

Languages: English (native), Mandarin (native), Spanish (intermediate)

PROJECTS – *Links to all projects can be found on rachelyan.org.*

REBEAT – Oct 2024-Present | *C#, Debugging, Testing, Unity, Visual Studio, Windows Presentation Foundation, XAML*

- Developed a 2D combat-based video game in which they don’t forget you, Player.
- Assembled the game using Unity Engine and the launcher using WPF, C#, and XAML.

FREE FOR ME [OASIS] – Sep 2024-Present | *CSS, Data structures, Object-oriented & dynamic programming, Git, HTML, JavaScript, Node.js, Supabase*

- Collaborated with a team of 4 to design a website called Free for Me enabling university students in Boston to discover student discounts available to them based on their school.
- Scraped data from websites of Boston attractions, shops, schools, and blogs to populate a database in Supabase.

GARMENT GENIE – Nov 2022-Present | *Browser extension development, CSS, Development for Chrome Web Store, Git, HTML, JavaScript, JSON, Node.js*

- Programmed a Chrome browser extension that recommends similar clothing items on thredUp.com as alternatives to products on shein.com.
- Parsed source/DOM code from the Shein item page and matched it to similar items on thredUp using a recommendation logic function.
- Currently under review for publication to the Chrome Web Store.

PERSONAL WEBSITE – Oct 2024 | *Cloudflare DNS, CSS, Debugging, Domain + website deployment, HTML, JavaScript, Testing, VS Code*

- Coded a website about me and deployed it to two different domains using Cloudflare.

LIGHT ‘EM ALL – Apr 2024 | *Algorithms, Data structures, Debugging, Eclipse, Java, Object-oriented & dynamic programming, Testing*

- Engineered a game called Light ‘Em All in which the player must connect all tiles with pipes to light up the entire game board.
- Implemented breadth-first search and Kruskal’s algorithm to determine conditions for the completed board and if the player has won.

DESTROY DR. RACKET – Nov 2023-Dec 2023 | *Ableton, Kontakt, Music composition & production, Music theory, Unity Engine*

- Built a 3D textured boss model in Unity for a movement FPS (first-person shooter) video game in which the player must fight the team as bosses to progress to Dr. Racket, the final enemy.
- Composed and produced all boss themes

SUGAR SPRINT – Oct 2023 | *Ableton, Kontakt, Music composition & production, Music theory*

- Composed and produced the soundtrack for Sugar Sprint, a 2D platformer game about a girl made of candy and her dog.

WORK EXPERIENCE

NORTHEASTERN UNIVERSITY CAMD OFFICE OF THE DEAN – Boston, MA | Jan 2024-Present | *Seasonal Office Assistant & Receptionist*

- Delivered front desk customer service and logged mail information.
- Handled phone calls professionally, maintained an organized workspace, and managed deliveries.

JOHNS HOPKINS WHITING SCHOOL OF ENGINEERING – Baltimore, MD | Sep 2022-May 2023 | *Research Intern*

- Investigated plastic waste conversion methods with Environmental Engineering Professor Wang and graduate student Han Zong.
- Studied upcycling techniques and explored the design of more sustainable plastics

OTHER ACTIVITIES

PIANO & MUSIC THEORY – 2010-Present

- Accompanied 15+ clients for musical performances and collaborated as a team to produce cohesive shows.
- Achieved 7 Distinctions and 7 Merits in 16 Trinity College London Examinations for piano and music theory while taking private lessons.
- Selected as a member of Northeastern University’s audition-exclusive chamber ensemble.

HONORS & AWARDS

AP Scholar Award with Distinction, AP Scholar Award

May 2020, May 2021, May 2023

National Merit Commended Student

Oct 2022

FAPAC/FDA/NIH/Parklawn Chapters 2022 Best Community Project Award

Aug 2022

National Rural and Small Town Recognition

Aug 2022