Thomas Yi

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EDUCATION

Northeastern University — Boston, MA

Bachelor of Science in Computer Science and Animation — *Sep 2023 - May 2027*

GPA: 3.86 / 4.0 — Dean's List

Courses (CS): *Computer Graphics, Database Management Systems, Human-Computer Interaction, Algorithms*

Courses (Animation): *2D + 3D Animation, Virtual Environment Design, Narrative Basics, Form and Structure, Painting*

TECHNICAL SKILLS

Programming Languages: C++, Java, R, SQL, HTML, JavaScript, Python
Artistic Tools: Autodesk Maya, Blender, Photoshop, Unity, Adobe After Effects, Substance Painter, Illustrator
Databases: MySQL, SQLite, SQL, Database Management Systems
Developmental Workspaces: Git, VS Code, Figma, IntelliJ, Eclipse, Google Analytics, Excel
Interests: Animation, Musicals, Red Sox, Violin, Orchestra, Nordic Skiing, Manga

EXPERIENCE

Art Group Leader — Feb 2025 - Present

You're With Us! — *Boston, MA*

- Led weekly collaborative workshops for **20+** students with disabilities, promoting creativity and inclusion for all.
- Adapted teaching approaches and materials to ensure accessibility and engagement across all participant needs.
- Managed event logistics, including material preparation and activity planning for a structured, supportive setting.

Teaching Assistant - CS 2500 : Fundamentals of Computer Science — Sep - Dec 2024

Northeastern University — *Boston, MA*

- Helped **500+** students learn systematic program design with topics including graph/tree algorithms and recursion.
- Conducted **5** weekly office hours to provide individualized support and guidance to students.
- Led weekly lab sessions, guiding **35+** students through exercises, presenting topics, and answering questions.
- Held occasional special lectures of **150+** students for exam review sessions to cover cumulative course material.

PROJECTS - CS — *yith.myportfolio.com/coding*

3D Scene Graph Modeling & Raytracing | *C++, OpenGL, GLFW, GLAD*

- Developed a 3D scene graph modeling system with hierarchical transformations for structured instancing and trackball-based camera interaction, allowing intuitive real-time scene navigation and rotation.
- Created custom **ray-tracing** renderer, simulating the path of light to create realistic visuals.
- Implemented custom traversal algorithms, reducing processing time for scene updates by **30%**.

Battle Values Card Game | *Java, JUnit, Java Swing*

- Built a strategic, turn-based card game with MVC architecture and dynamic grid-based mechanics.
- AI opponent utilizing advanced game strategies, alongside configurable grid systems for enhanced re-playability.
- Rigorously ran over **400** Unit and Integration tests with **95%** coverage to ensure smooth gameplay.
- Developed an intuitive GUI with comprehensive error handling and input validation for optimal user experience.

Open Forum | Prototype | *Figma, Affinity Mapping, Persona Development*

- Designed mobile platform enabling interest-based discussions using interviews to identify connection barriers.
- Translated qualitative user feedback into functional requirements and a high-fidelity prototype that reduces social barriers while supporting structured student engagement.
- Applied HCI principles to address campus disconnection through customizable participation options.

Pharmacy Sales Database | Github | *R (DBI, ggplotlib, kableExtra) SQL, SQLite, MySQL*

- Architected ETL pipeline and relational database to analyze 10 years and **300,000** entries of pharmacy sales data.
- Implemented automated R scripts for seamless data transformation between SQLite warehouse and MySQL mart.
- Ran SQL queries to surface insights about product performance and sales representative effectiveness.

FAA Bird Strike Data Analysis | Github | *R (DBI, sqldf), SQL, SQLite, MySQL*

- Engineered a cloud-based relational database infrastructure to analyze Federal Aviation Administration (FAA) incident data, leveraging MySQL with R integration for optimal performance.
- Implemented data normalization protocols for CSV processing, establishing data integrity and quality controls.
- Built analytical models to identify critical safety patterns across airports and wildlife incidents.