

# Jack Burkhardt

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<https://jackburkhardt.com>

## EDUCATION

**Northwestern University**, Evanston, IL

MS, Computer Science, Expected June 2024

BA, Computer Science, Expected June 2024

- Winner, 2022 Kaplan Writing Prize
- Current GPA: 3.65 / 4.00

## EXPERIENCE

**Overture Games**, Chicago, IL

**Lead Systems Engineer**, June 2022 – Present

- Developed music practice game [Intervallic](#) which reduces burnout among young music students
- Learned new skills quickly to address current product needs -- developed gameplay, level editor, platform integration (Steam, iOS), player metrics (AWS), audio & pitch detection (FMOD), internal tooling, monetization
- Drafted detailed technical design for the above systems, pitched them to team, then iterated based on feedback
- Balanced needs of studio leadership, users, and programming team to satisfy constraints and deliver quality product

**NASA**, Wallops Island, VA

**Flight Safety Tool Programming Intern**, June 2023 – Aug 2023

- Validated a mission-critical safety analysis tool through unit tests, numerical analysis, and previous mission data
- Communicated constantly across Engineering, Safety, and Program offices to best accommodate each team's needs
- Rapidly learned and built upon a 20 year old & 15k line C++ codebase by drawing program flow and debugging

**Project KeyWave (acquired by [SimCase](#))**, Remote, USA

**Lead Programmer**, June 2022 – Sept 2022

- Built an educational game integrating modular visual novel, job simulator, and roleplaying systems using component-based architecture and JSON serialization
- Directed implementation of art, sound, and writing in Unity through direct coordination with respective designers
- Developed custom tools allowing designers and other non-programmers to add content 40% faster than manually

**Mayfest Productions**, Evanston, IL

**Producer**, Sept 2021 – Present

- Planned and executed [Dillo Day](#) music festival with 12,000+ attendees, 100+ crew members, and 14 artists
- Managed a mainstage artist and coordinated with their agents, technical, and PR teams pre-event and day-of
- Documented each year's lessons and created actionable steps to improve the attendee experience and team safety

**Northwestern University**, Evanston, IL

**Undergrad Research Aide**, June 2021 – June 2022

- Completed [VastWaste](#), an immersive Virtual Reality art experience, using Unity3D, Wwise, and SteamVR
- Successfully pushed for increased documentation and version control to streamline development
- Presented work publicly at prestigious international exhibitions including [ISEA2022](#) and [SIGGRAPH2022](#)

## TECHNICAL SKILLS

- *Programming Languages*: C#, C++, C, Java, Python, SQL, JavaScript, DSSL2 & Racket
- *Tools*: Unity3D/2D, Unreal Engine, FMOD, AWS, Source Engine, Construct2
- *Adobe Software*: Premiere Pro, Photoshop, InDesign, After Effects, Lightroom
- *Productivity*: Git, Perforce (user & admin), Microsoft Office, Jira, Agile/Scrum, Trello, Confluence

## RELEVANT COURSEWORK & TOPICS

- Operating Systems: Wrote kernel code, drivers, and schedulers for UNIX-like operating systems
- Networking: Built web servers and clients, also implemented TCP, flow control, and IP routing

## COURSES AS TEACHING ASSISTANT

- **CS 376**: Game Design & Development
- **CS 377**: Game Development Studio
- **CS 330**: Human-Computer Interaction
- **CS 396**: AI & Experimental Narrative
- **RTVF 376**: Filmmaking w/ Unreal Engine