

Jacob Speicher

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Software and game developer looking to leave automation engineering and return to feature development, working on game development and accessibility.

Experience

DZX (contract: PlayStation) · SDET

May 2021 - Present | Madison, WI

- › Contribute to the design, usability, and development of internal tools used to create PlayStation store experiences across console and web.
- › Participate in code review process for new feature development work.
 - Provide feedback on feature development pull requests while gaining a thorough understanding of the code in order to design strong testing suites.
- › Build a robust automation foundation codebase to allow anyone on the team to easily script automated tests.
- › Maintain the quality of the codebase and tooling suite.
 - Identify and fix bugs.
 - Monitor the performance of nightly regression tests run through Jenkins.
- › Implement new features.
- › Advocate for greater web accessibility across the internal monetization tooling organization.

Epic Systems · Software Developer

July 2019 - December 2020 | Madison, WI

- › Created a new web application for admitting, transferring, and discharging hospital inpatients to make efficient use of hospital bed space.
- › Interfaced with the larger Epic system to keep inpatient status in sync with other applications for billing, transporting, doctor orders, etc.

CogWorks Lab · AI Programmer/Researcher

February 2017 - May 2019 | Troy, NY

- › Implemented functionality for cross-entropy reinforcement learning (CERL) models that modeled Tetris play to make decisions using information about future tetrominoes.
- › Studied how the CERL models could be used to understand human performance and expertise within Tetris.

Projects

pAGE · C++, OpenGL, GLSL, Dear ImGui

- › Tool to create and modify 2D and 3D objects.
- › Written in C++ using OpenGL to render models and Dear ImGui for the interface.
- › 3D/matrix math to allow the user to inspect scenes in 3D space.
- › Uses Moller-Trumbore algorithm to allow users to select objects from the scene.

speiCHR · C++, OpenGL, Dear ImGui

- › Tool to process images and turn them into tilesets for use in NES background tables.
- › Written in C++ using OpenGL to render and manipulate images, and Dear ImGui for the interface.

Accordion Solitaire · C++, SFML, GLSL

- › A PC solitaire game written from scratch in C++ without the use of a game engine.
- › Loaded textures, defined materials, and wrote shaders to render the playing cards to the screen.

PONG · 6502 Assembly

- › Created a playable NES ROM for a 2-player game of PONG.
- › Used assembly to communicate between the CPU, the CHR & ROM banks, RAM, and the Picture Processing Unit, created art and fonts.

Education

Rensselaer Polytechnic Institute

- › B.Sc. Computer Science & Cognitive Science, double major
- › Concentration in AI & Data

Skills

Programming Languages

- › Assembly
- › C/C++
- › GLSL

Game Engines

- › GameMaker
- › Godot
- › Unreal Engine 4

Libraries/APIs

- › Dear ImGui
- › OpenGL
- › SDL
- › SFML

Research

- › Sibert, C., Speicher, J., & Gray, W.D. (2020). **Less is More: Additional Information Leads to Lower Performance in Tetris Models.** *Proceedings of ICCM 2019 - 17th International Conference on Cognitive Modeling (2020)* 228-234.