**Spencer T. Parkin**

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<https://github.com/spencerparkin>

**Employment**

**Senior Software Engineer** 2016 – Present

*3M Health Information Systems, Murray, Utah*

Helped to develop and maintain the test automation component of the continuous integration cycle. Wrote a Python/Selenium-based testing framework designed to exercise the coding & reimbursement software developed by 3M HIS. Worked with test automation engineers to make use of the framework.

**Programmer** 2012 – 2016

*Avalanche Software, Salt Lake City, Utah*

Developed new C++/MFC/OpenGL-based tools for use in the asset-to-game pipeline. Worked with tool users (artists and designers) to optimize workflow and educate them on how to use the tools. Modified existing tools to fix bugs and add new features and functionality. Worked closely with those implementing the content-build pipeline and engine consumption of game assets.

**Associate Programmer** 2007 – 2012

*Avalanche Software, Salt Lake City, Utah*

Developed file archiving software for use in packaging up files to be efficiently consumed by the game engine (named Octane) at load time for the title “Bolt.” Worked on the CPU- and GPU-side implementation of the particle system, as well as developed a particle-system authoring tool with live-authoring capabilities that was used in many subsequent titles. Wrote low-level math routines and optimized them with assembly and SIMD intrinsics.

**Lab Aide** 2003 – 2007

*Weber State University, Ogden, Utah*

Helped fellow students with computer-related tasks while earning a 4-year degree (a B.S. in math.)

**Level 1 Programmer** 2001 – 2002

*Acclaim Entertainment, Sugar House, Utah*

Developed the front-end menu system (in C++) used to choose characters, levels, user preferences and other options before proceeding into game-play. Worked closely with artists and designers to fulfil all software requirements. Our title was “Legends of Wrestling II.”

**Programming Intern** 2000 – 2001

*Acclaim Entertainment, Sugar House, Utah*

Worked on the particle system implementation and character customization feature of the game “Legends of Wrestling I.” For example, splatting blood spots (red texels) on the mat during a fight.

**Education**

**Bachelor of Science in Mathematics** 2003 – 2007

*Weber State University, Ogden, Utah*

While earning a 4-year degree, participated in math club, and submitted solutions to problems published in math journals. Earned a minor in computer science. Gave talks to the math club on interesting math puzzle solutions.

**High School Diploma** 1998 – 2001

*Viewmont High School, Bountiful, Utah*

While in the first year of high school, played clarinet in the marching band.

**College Credit** 2000 – 2001

*Davis Applied Technology Collage, Kaysville, Utah*

Spent half of the last year of high-school at a community college to earn college credit towards a computer science degree.

**Personal Projects**

**Symmetry Group Puzzle**

[*https://github.com/spencerparkin/SymmetryGroupPuzzle*](https://github.com/spencerparkin/SymmetryGroupPuzzle)

This is a WebGL-based web-app featuring the 2-dimensional analog of the typical 3-dimensional twisty puzzle (e.g., the Rubik’s cube.) A build process generates the puzzles from sources to be served to the web page where the puzzles can be manipulated.

**Twisty Puzzle**

[*https://github.com/spencerparkin/TwistyPuzzle*](https://github.com/spencerparkin/TwistyPuzzle)

This is an OpenGL-based windows application written in C++/wxWidgets that distributes as a snap on Ubuntu Linux. It features a general purpose twisty puzzle engine capable of simulating a variety of puzzles ranging from the classic Rubik’s Cube to the Dogic to the Bagua, and so on.

**Chess**

<https://github.com/spencerparkin/Chess>

This is a web-app implementation of Chess written in React/JS and Python. The min/max algorithm was used to provide a fairly reasonable AI opponent.

**Billiards**

[*https://github.com/spencerparkin/Billiards*](https://github.com/spencerparkin/Billiards)

This is a PyQt-based windows application featuring a physics-based computer simulation of a pool table.