Spencer T. Parkin

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OBJECTIVE

A position in the field of software engineering with special interests in computer graphics and user interfaces.

EDUCATION

Bachelor of Science, Mathematics
Weber State University, Ogden, UT, Graduated 2007
Major: Mathematics
Minor: Computer Science
Graduated High School 2001

COMPUTER SKILLS

Languages & Software: C/C++, Lua, C#, Java, Assembly, HLSL, Perl, Git, OpenGL, MFC, wxWidgets, Qt, cURL, DevStudio.
Operating Systems: Windows, Linux.

EXPERIENCE

Programmer 2012-2016
Avatar Tools Team, Programming Department, Disney Interactive

- Developed new tools to increase team productivity. E.g., Custodian – a wizard program designed to lead the user through a set of esoteric steps; Emu – a tool presenting its users with a visual programming language used to create executables for our engine run-time VM.
- Maintained existing tools. I.e., fixed bugs, added new features, optimized performance, improved visuals.

Associate Programmer 2007-2012
Programming Department, Disney Interactive

- Developed particle authoring tool with live-authoring features.
- Implemented lens-flare system.
- Helped port old particle system to new renderer.

Lab Aide 2003-2007
Worked as a lab aide to pay for books during the college years.

Level 1 Programmer 2001-2002
UI Programming, Acclaim Entertainment

- Worked with artists and designers as sole programmer on main front-end user-interface for Legends of Wrestling II.

Programming Intern 2000-2001
FX Programming, Acclaim Entertainment

- Worked on the particle system. Implemented blood/sweat splatter for Legends of Wrestling I and various other particle effects.
- Implemented body-part resizing subroutine for create-a-wrestler feature.

PUBLICATIONS The following publications are given in chronological order.

- Parkin, S. (2014). The Mother Minkowski Algebra of Order M. *Advances in Applied Clifford Algebras*, 24(1), 193-203.
- Parkin S. (2014). The Intersection of Rays with Algebraic Surfaces. *Advances in Applied Clifford Algebras*, 24(3), 309-815.
- Parkin, S. (2015). Versors That Give Non-Uniform Scale. *Advances in Applied Clifford Algebras*, 25(1), 219-225.
- Parkin, S. (2015). An Introduction To Geometric Sets. *Advances in Applied Clifford Algebras*, 25(3), 639-655.

PERSONAL PROJECTS The following are computer programs I've written out of personal interest. Source code for all of these projects can be found here: https://github.com/spencerparkin?tab=repositories

- **CalcLib** – A static library providing numeric and symbolic calculation support. Unlike most calculators, this one understands geometric algebra.
- **GAVisTool** – Built upon CalcLib, this is a tool for exploring and experimenting with conformal geometric algebra. It also utilizes a BSP-tree to do real-time alpha-sorting.
- **GALua** – A Lua module that exposes the capabilities of CalcLib.
- **CSharpMaze** – A rectangular and circular maze generator written in C#.
- **ChineseCheckers** – A wxWidgets-based application utilizing OpenGL's selection mechanism. It is also multi-player as it can host and connect to a game session.
- **RubiksCube** – Another wxWidgets-based application utilizing OpenGL's selection mechanism. Any Rubik's Cube of degree 3 or higher can be simulated. An algorithm is provided that can find a solution to any such scrambled cube. The solution sequence is animated.
- **ImageGenerator** – A multi-threaded image generator that can generate fractals and ray-trace scenes specified in XML. It can also render video clips.

EXTRA-CURRICULAR ACTIVITIES

- Served an LDS mission in Los Angeles from 2002 to 2003.
- Long day-hikes to big peaks such as Salt Lake Twin Peaks, Dromodary Peak, Mt. Superior, Lone Peak, Ben Lomond Peak.
- Trail running!
- Cubing! Rubik's Cube, Square-1, Curvey-Copter, Rex-Cube, various cuboids, etc.