Leland J. Jefferis

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Education

University of Wisconsin - Madison
Ph.D. Mathematics, Adviser: Shi Jin *Sep./09 – May/14*

Seattle University
B.S. Mathematics, Summa Cum Laude *Sep./04 – May/08*

Seattle University
B.S. Physics, Summa Cum Laude *Sep./04 – May/08*

Experience

Epic Systems
Software Developer Team Lead *Mar./16 – present*
I led a team team developed advanced web apps, conduct dependency analysis, and perform long term planning.
- Mentored team members and guided weekly meetings to discuss projects and progress.
- Created and organized a seminar focused on disseminating self taught web related knowledge through informal presentations.
- Developed scripting tools for calculating and visualizing code dependencies of legacy code base.

Epic Systems
Software Developer *Feb./15 – Feb./16*
I worked collaboratively to develop advanced web apps within an advanced MVVM data binding web framework for use by Radiologists in the clinical setting.
- Optimized database query algorithms by performing in depth "Big-O" analysis.
- Devised long term migration strategies from legacy code base to the web.
- Performed rapid prototyping of experimental web client components.
- Wrote detailed design documents for proposed development.
- Completed and managed 10 projects in parallel on aggressive time-lines.
- Constructed unit tests for all code produced.

Seventh Harmonic LLC
Co-Founder and Programmer *Aug./13 – present*
I Co-founded Seventh Harmonic (`http://seventhharmonic.com`), a mobile gaming company that produces original recreational software for mobile devices.
- Produced Bee-Line, an original puzzle game that combines maze elements with a Sudoku puzzle. Bee-Line currently has over 2000 users.
- Collaborated with a fellow programmer and an artist to create Bee-Line's unique game-play and aesthetics.
- Fabricated a custom game engine from scratch within the Android platform using Java and OpenGL.
- Worked with a legal team and UW – Madison business school to form an LLC and to conceive a marketing strategy.

UW - Madison
Research Assistant *Sep./09 – May/14*
I researched and developed new numerical methods to simulate high frequency wave motion in hyperbolic PDE.
- Passed three qualifying exams in a single testing period.
- Obtained strong research skills and sophisticated problem solving tactics.
- Communicated difficult concepts through technical writing and oral presentation.
- Wrote and produced three research papers with adviser Shi Jin in the subject of high frequency wave simulation.
- Presented at numerous applied/computational mathematics conferences.

UW - Madison
Teaching Assistant *Sep./09 – May/14*

I assisted and taught undergraduate and graduate level mathematics courses.
- Received high student evaluation scores for all courses taught.
- Taught an applied mathematics qualifying exam preparation summer course for incoming graduate students.

Computer Skills

Languages: C/C++, C#, Java

Database: SQL, MUMPS

Web Client: Javascript, JQuery, CSS/SCSS, AngularJS

Scripting: Bash, Emacs Lisp, AWK

Editors: Emacs, Visual Studio, Android Studio

Other: Android, Matlab, OpenGL, Python, FORTRAN

Open Source Projects

Yasnippet Backsolve Emacs Extension: This project added "backsolve" functionality to Yasnippet, a popular snippet entry tool for the Emacs editor. This allows the user to search for and re-edit blocks of code created using the snippet. The functionality is achieved by building a regular expression via careful parsing of Yasnippet's snippet syntax. This addition transforms Yasnippet from an entry tool into an advanced editing tool.

Tetromino 19: This is the name of an optimized algorithm developed to tile arbitrary regions with polyominos. The algorithm is at the core of both a game and a collaborative art project with Awdience LLC (`http://awdience.com`).

Katyedid's Kitchen: Built an HTTP server in C/C++ from scratch to be used as a back-end for a one page app style recipe management website (also built from scratch). The back-end is capable of data mining content from other recipe aggregators.

Photon counting: Researched and developed an asynchronous time-correlated single photon counting based auto-correlation algorithm in collaboration with Dr. Randall Goldsmith. The Matlab script implementation is competitive with commercial offerings and is freely available for researcher use.

More: Please visit my home page for further examples: `http://lelandjefferis.com`

Selected Awards

National Science Foundation Mathematical Sciences Postdoctoral Research Fellowship: Selected from national pool to perform postdoctoral research at Stanford University with George Papanicolaou. (declined)

John Nohel Prize: Awarded for outstanding work in applied math at UW - Madison

John Ju Award: Awarded for an exceptional graduate in science and engineering at Seattle University

Goldwater Scholarship: Selected from national pool of undergraduate applicants for academic excellence in the sciences.

Languages

English: Native

Mandarin Chinese: Conversational

Hobbies

Music & Art: Piano, guitar, music composition, and sketching.

Rock-star: Member of The Hum (a rock band).

Exercise: Rock climbing, surfing, backpacking, and dancing.

Travel: Traveled extensively in China, North America and Europe.