Leland Jefferis

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Education

University of Wisconsin - Madison
Ph.D. Mathematics, Advisor: 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*
Led team of developers in developing advanced web apps, conducting dependency analysis, and performing long term planning.
- Meantored team members and held weekly meetings to discuss projects and progress.
- Created and led a seminar focused on sharing 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*
Developed advanced web apps used by Radiologsts in the clinical settting.
- Optimized database data retrieval algorithms by performing in depth "big-O" analysis.
- Developed long term migration strategy from legacy code base to the web.
- Performed rapid prototyping of new web client components.
- Wrote detailed designs, completed numerous projects in parallel, and wrote unit tests within an advanced MVVM data binding web framwork.

Seventh Harmonic LLC
Programmer and Co-Founder *Aug./13 – present*
Co-founded Seventh Harmonic (`seventhharmonic.com`), a mobile gaming company with the goal of producing completely original mobile recreational software that looks great and plays smoothly.
- Developed BeeLine, an original puzzle game that combines elements from a maze with Sudoku. BeeLine currently has over 2000 users.
- Wrote custom game engine from scratch within the Android platform using Java and OpenGL.
- Worked with legal team and UW - Madison business school to form an LLC and to concieve a marketing strategy.

UW - Madison
Research Assistant *Sep./09 – May/14*
Researched and developed numerical methods for the physical simmulation of high frequency wave motion in hyperbolic PDE.
- Passed three qualifying exams in a single testing period.
- Produced three research papers with advisor Shi Jin in the subject of high frequency wave simulation.
- Traveled to an presented at numerous applied/computational mathematics conferences.

UW - Madison
Teaching Assistant *Sep./09 – May/14*
Assisted in the teaching of undergraduate and graduate mathematics courses.
- Recieved high student evaluation scores for all courses taught.
- Taught applied mathematics qualifying exam preparation 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. The added yas-backsolve allows the user to search for and re-edit blocks of code which match the structure of a snippet. The functionality is achieved by parsing Yasnippet's snippet syntax and building a regular expression capable of finding matching blocks of code. This addition transforms Yasnippet from an entry tool into an advanced editing tool.

Tetromino 19: This is the name of an optomized 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 (`awdience.com`).

Katyedid's Kitchen: Built an HTTP server in C/C++ from scratch and deployed a one page app style recipe management website on top of. 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 competative with commercial offerings and is freely available for researcher use.

More: Please visit my home page for further examples.

Selected & Awards

National Science Foundation Mathematical Sciences Postdoctoral Research Fellowship: Selected from national pool to perform postoctoral 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 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.