

## **Jason L. Thalken**

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### **Education**

*University of Southern California, Los Angeles, Ca*      *September 2006 (3.2 GPA)*

#### **Ph.D. Physics** (emphasis in computational physics)

- Most coursework taken while balancing full time or half time employment
- Graduated 2 years ahead of schedule with three first-author journal publications
- Well-known in the physics department for the unique ability to complete a 15 page homework assignment on a single sheet of paper

*University of Texas, Austin, Tx*

*May 2002 (3.2 GPA)*

#### **B.S. Physics**

#### **B.S. Pure Mathematics** (emphasis in statistics)

#### **B.A. Philosophy**

- Most coursework taken while balancing full time or half time employment
- 4 year recipient of the UT physics scholarship, ΣΠΣ (physics honor society)
- 2000-2001 TSP photographer of the year (ahead of all photojournalism majors)
- University Honors - fall semester 1998
- SAT: 720 M, 690 V, awarded "AP Scholar with Distinction" by The College Board
- Tested out of 37 units prior to freshman year, earning immediate sophomore status

### **Professional Experience**

*Quantum Engineering Group, USC, Los Angeles, Ca*

*2003-2006*

#### **Graduate Researcher**

- Designed semiconductor devices capable of increasing optical communication speeds by over 1000%, generating funding from DARPA in excess of \$3 million
- Developed new computational problem solving methods, resulting in the ability to solve problems with more than 10 times more variables and 100 times more data than traditional methods
- Approached semiconductor manufacturing companies with improved design possibilities, reworked the design to fit the company's limitations and capabilities, oversaw growth and testing, analyzed results
- Mentored three researchers and worked across several close-knit groups, implementing solutions and providing expertise for 6 separate design projects
- Coordinated efforts across several engineering teams, gave presentations on results at weekly meetings and bi-monthly funding sessions

*University of Southern California, Los Angeles, Ca*

*2002-2004*

#### **Physics Lab Instructor**

- Oversaw and instructed six physics laboratory sessions of 12 students each
- Presented complex material understandably, and extended personal office hours from 1 to 6 hours a week due to high demand, enabling the success of every student
- Awarded graduate student teacher of the year award for the 2003-2004 school year

*The Daily Texan, Austin, Tx*

*2001*

#### **Editor, Photo Department**

- Managed, coordinated, and trained a team of 13 staff photographers
- Collaborated with other departments to ensure the best possible combination of photography and written word, noticeably improving overall feature quality

*Web Transaction Services, Austin, Tx*

*2000-2001*

### **PERL Programmer**

- Originally hired as an HTML developer, but quickly learned PERL and was promoted to PERL programmer within three weeks of hire date
- Designed and implemented an intuitive account and transaction summary system, streamlining and automating the tedious client reporting process

## **Skills**

### PROBLEM SOLVING

- *World expert* on problem solving methods for optimization with many variables
- Data mining, dimensionality reduction, data classification, Genetic Algorithms, Evolutionary Strategies, Annealing methods

### BUSINESS/CONSULTING

- Strong experienced leader, extremely self motivated
- Quick to learn new tasks and skills
- Proficient at coordinating and managing cooperative efforts from several teams to achieve common goals, teamwork, multitasking

### COMPUTATIONAL

- Programming: C/C++, PERL, PHP, Fortran, Matlab, JavaScript, HTML, CSS and Visual Basic, MPI, Parallel computing, OpenGL, Interactive GUI development, SQL, Database design/management, Macros
- Software: Excel, PowerPoint, Adobe Photoshop, Flash, Matlab, Mathematica, Labview, Windows, Linux

## **Publications & Presentations**

Ph.D. Thesis: "Search, Synthesis, and Analysis for Semiconductor Device Design"

'Synthesis for semiconductor device design'

*J. Thalken, S. Haas, and A.F.J. Levi, J. Appl. Phys. 98, 044508 (2005)*

'Adaptive Design of Excitonic Absorption in Broken-Symmetry Quantum Wells'

*J. Thalken, W. Li, S. Haas, and A.F.J. Levi, Appl. Phys. Lett. 85, 121 (2004)*

'Adaptive Quantum Design of Atomic Clusters'

*J. Thalken, Y. Chen, A.F.J. Levi, and S. Haas, Phys. Rev. B 69, 195410 (2004)*

'Adaptive Quantum Design for Nanoscience'

*J. Thalken, S. Haas, and A.F.J. Levi, American Physical Society,*

*APS March Meeting, 2005, abstract #A25.007*

'Adaptive Design of Excitonic Absorption in Broken-Symmetry Quantum Wells'

*J. Thalken, S. Haas, and A.F.J. Levi, University of Southern California,*

*USC Optics & Photonics Seminar, 2004*

## **Activities & Leadership**

National Wushu Training Center (2006-present)

The Groundlings School of Improvisational Comedy (2003-2005)

UT BUH (1998-2001) – *Founder, President, 200+ members*

KVR-TV (1999-2001) – *Producer/Director*

The Texas Travesty (1998-1999) – *Co-founder*

UT Judo Team (1997-1999) – *Collegiate state champion 1998*