

## **CRAIG FINCH**

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**OBJECTIVE:** to utilize my experience in engineering, research and scientific computing to transform scientific breakthroughs into profitable products.

### **INDUSTRY EXPERIENCE**

#### **Design Engineer, TriQuint Semiconductor**

**June 1997 - Dec 2003**

- Designed radio-frequency (RF) signal processing devices for wireless communications systems (mostly mobile phone handsets) using Surface Acoustic Wave (SAW) technology
- Earned the position of Technical Leader within the handset design engineering group
- Proposed and negotiated technical specifications with customers
- Improved relationships with domestic and foreign customers through technical support and application engineering
- Enhanced manufacturing yield for high-volume products (shipping over 15 million units)

### **SKILLS**

- Predicting device performance with engineering simulation tools such as electromagnetic field solvers (HFSS) and computational fluid dynamics (CFD) simulations (CFD-ACE+, FLUENT)
- Developing custom simulation software using Python, Matlab, C++, and Fortran, and open-source tools such as GNU/Linux, LAPACK, Numpy, MPI, and wxWidgets
- Optimizing parallel applications for high performance computing
- Analyzing data using statistical software (R, SAS JMP) and signal-processing tools
- Designing for manufacturability and transferring products to high-volume production
- Version control software: Subversion and Git,
- Documentation software: LaTeX, Lyx, Asymptote

### **EDUCATION**

#### **PhD. Candidate in Modeling and Simulation**

**Dec 2009 (anticipated)**

Emphasis on Quantitative Aspects of Simulation  
University of Central Florida, Orlando, FL  
GPA: 3.83 out of 4.0

#### **Proposed Dissertation:** *Multiscale Simulation of Protein Adsorption in Microfluidic Channels*

- Developing a Brownian dynamics simulation that incorporates DLVO forces and shear flow
- Accelerating parallel calculations with CUDA on NVIDIA graphics processors (GPUs)
- Incorporating simulation results into a new adsorbing boundary condition for CFD
- Building a custom Whispering Gallery Mode (WGM) biosensor to quantify the adsorption kinetics of proteins on various engineered surfaces (glass, PEG, DETA, 13F)

#### **Master of Science in Electrical Engineering**

**August 2001**

Concentration in Electromagnetics and Microwave Engineering  
University of Central Florida, Orlando, FL  
**Thesis:** *Electrical Characterization of SAW Filter Packaging*

#### **Bachelor of Science in Electrical Engineering**

**May 1997**

University of Illinois at Urbana-Champaign

United States Citizen