

ERIC W. WORK

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OBJECTIVE

A position in software engineering or digital design.

ENGINEERING SKILLS

- **Signal Processing:** Matlab/Octave, Multimedia Coding, DSP Algorithms
 - FFT/DCT, CDMA, LDPC, FIR Filters, Nyquist Filters, Huffman Encoding
 - **Digital Design:** Cadence, Synopsys, Verilog/VHDL, SPICE, VLSI, FPGA
 - Nanosim, Hspice, NCVerilog, Modelsim, Design Compiler, Magic, Encounter
 - **Programming:** C/C++, Java, C#/VB.NET, Perl, Python, HTML, Win32 API, POSIX
 - **Unix Tools:** Linux, X-Windows, GCC/GNU Autotools, GTK, Scripting, PThreads
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EDUCATION

M.S. Electrical & Computer Engineering

University of California, Davis Davis, CA 2004-2006

- **3.80 GPA**, graduating fall quarter 2006.
- Masters Thesis: *Algorithms and Software Tools for Mapping Arbitrarily Connected Tasks onto an Asynchronous Array of Simple Processors*

The project consists of algorithms and a graphical user interface for mapping an arbitrary dataflow graph of interconnected tasks onto 2D processor arrays. The algorithm is fault tolerant, addressing fabrication errors and leakage by excluding processors during mapping. Applications can be constructed hierarchically to achieve scalability from tens to thousands of processing elements.
- Worked with a team of graduate students on the design of a programmable and reconfigurable 36-processor array for computationally intensive DSP tasks. The chip was fabricated in 0.18 μm CMOS and was fully functional at 475 MHz.
- Developed tools for programming the processor array, including the interface software, an automated test suite, and enhancements to the compiler/assembler.

B.S. Electrical Engineering

University of Washington Seattle, WA 2001-2004

- **3.58 GPA**, graduated in March of 2004.
 - Designed a PC-based oscilloscope/datalogger for my senior design project capable of achieving 100 KS/s using PIC micro-controllers and RS-232 communication.
 - Developed a campus navigation tool with location-awareness services using GPS and WiFi triangulation. The tools allows students to quickly find dinning services on campus and provides a framework for WifiGPS development.
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WORK EXPERIENCE

Teaching Assistant

University of California, Davis Davis, CA 2005-2006

- Teaching Assistant for Digital Systems I. Taught students the basics of digital design, computer arithmetic, and logic simulation/verification.
- Teaching Assistant for VLSI Design. Taught students VLSI design techniques using Magic and IRSIM. Assisted the developers of Magic and IRSIM with numerous bugs, enhancements, and portability issues to improve the student's experience.

IT Specialist

American Paper Converting Woodland, WA 1997-2006

- Deployed a mission critical Windows Client and Linux Server network to aid with everyday business tasks using Samba. This increased company-wide productivity by allowing valuable resources to be shared.
- Designed a company website for providing up-to-date product information. This increased sales by allowing customers to cross-reference competitor codes and easily contact customer service through the website.
- Developed market specific inventory management software using C# & SQL. The result was near 100% accuracy to warehouse quantities, decreasing down-time and storage space, saving hundreds of thousands of dollars.

Teaching Assistant

University of Washington

Seattle, WA

2004-2004

- Developed an educational multimedia suite in MSVC integrating over a dozen audio, speech, video, and image codecs. The suite consisted of auditory, visual, and networking components that teach about multimedia and networking.
- Teaching Assistant for a course on multimedia and networking in Seoul, South Korea. My educational multimedia suite was a primary component in training professors on the concepts of multimedia and its iteration with networking.

Joint Owner

Fliphead.com

Vancouver, WA

2000-2002

- Jointly founded a web-hosting company providing a few dozen clients with domain names, web space, and email services. Outstanding technical support resulted in rapid growth with highly satisfied clients.
- Used open source tools such as Linux, Apache, MySQL, PHP, and Perl. This reduced operating costs and provided greater flexibility to our customers.

AWARDS

- 1st Place Software Design Invitational, Microsoft Imagine Cup Hong Kong
- Outstanding Senior Project Award
- Eta-Kappa-Nu (HKN) Electrical Engineering Honor Society
- Dean's List, President's List, Honor Roll

PUBLICATIONS

- Zhiyi Yu, Michael Meeuwsen, Ryan Apperson, Omar Sattari, Michael Lai, Jeremy Webb, Eric Work, Tinoosh Mohsenin, Mandeep Singh, Bevan M. Baas, "An Asynchronous Array of Simple Processors for DSP Applications", In Proceedings of the *IEEE International Solid-State Circuits Conference, (ISSCC '06)*, February 2006, pp. 428-429.
- Bevan Baas, Zhiyi Yu, Michael Meeuwsen, Omar Sattari, Ryan Apperson, Eric Work, Jeremy Webb, Michael Lai, Daniel Gurman, Chi Chen, Jason Cheung, Dean Truong, Tinoosh Mohsenin, "Hardware and Applications of AsAP: An Asynchronous Array of Simple Processors", In Proceedings of the *IEEE HotChips Symposium on High-Performance Chips, (HotChips 2006)*, August 2006.
- Zhiyi Yu, Michael Meeuwsen, Ryan Apperson, Omar Sattari, Michael Lai, Jeremy Webb, Eric Work, Dean Truong, Tinoosh Mohsenin, Bevan Baas, "AsAP: An Asynchronous Array of Simple Processors", Submitted to *IEEE Journal of Solid-State Circuits (JSSC)*.
- Zhiyi Yu, Michael Meeuwsen, Ryan Apperson, Omar Sattari, Michael Lai, Jeremy Webb, Eric Work, Tinoosh Mohsenin, Bevan Baas, "Architecture and Evaluation of An Asynchronous Array of Simple Processors", Submitted to *IEEE International Parallel & Distributed Processing Symposium (IPDPS)*.
- Eric Work, "Algorithms and Software Tools for Mapping Arbitrarily Connected Tasks onto an Asynchronous Array of Simple Processors", Masters Thesis, Computer Engineering Research Laboratory, ECE Department, University of California, Davis, 2006, **in preparation.**

References available upon request.