

David Ljung Madison

Programming, Algorithm Design, VLSI / CPU Verification

Accomplishing the impossible, on a deadline

CONTACT INFO

Looking for full-time work in Silicon Valley.

415-341-5555

resumeMail@DaveSource.com

CAREER SUMMARY

Accomplished problem solver who can create new solutions to finish products faster, easier and with higher quality.

Exceptional at figuring out how to break things to make them stronger.

WORK EXPERIENCE

Verification Consultant, [Bluechip Systems](#). May 2015 - Jan 2016

Came up with innovative solutions to verify secure communications between Android devices and an SD card running linux on a custom CPU.

Director of Verification, [iCelero, LLC](#) / [3Plus1 Tech](#). Feb 2007 - Dec 2013

Took full ownership of complete verification toolchain, testbenches and tests for an [entire CPU verification process](#), (block level, full chip, SOC)

Invented a highly sophisticated test packer/generator for VLIW CPU

Stress tested a scalable server as well as writing some custom testing software.

Independent Consultant, [DaveSource Consulting](#). Jul 2002 - Present

Solved a wide-ranging list of problems for a number of companies, including:

- CPU verification and formal verification tool design
- Designed and implemented operations management algorithms. Order of magnitude improvement in runtime **and** savings.
- Custom image sorting software, custom web apps.

CPU Verification Engineer, [Transmeta Corp](#). Jan 2000 - Jul 2002

Took ownership for verifying two custom CPU blocks. Invented an original formal verification technique which accomplished the unheard of: [all bugs found pre-silicon](#).

CPU Verification Engineer, [SandCraft Inc.](#). Jul 1998 - Jan 2000

On a short schedule we verified a custom MIPS CPU. I created the entire verification toolchain and a time-saving modular testbench, as well as testing half the full chip.

CPU Verification and Debug, [VLSI Technology Lab](#), [Hewlett-Packard](#). Aug 1994 - Jun 1998

Slashed our preparation time and rewrote entire post-silicon debug toolchain ahead of schedule, at a savings of \$3M/day according to corporate calculations.
Managed a highly complex state-of-the-art code generator to continuously improve coverage.

Shareware Programmer/Owner, [Marginal Hacks](#), Aug 1991 - present

I wrote many popular tools at [Marginal Hacks](#), including the '[album](#)' application, which is the world's #1 used command-line photo album generator.

SKILLS

Computer Languages:

Multi-linguistic: Fluent in Ruby, Perl, C, Java, Scheme, Verilog, assembly, etc..
I often become a/the ruby/perl resource wherever I work.

Breaking things:

I often use things in new and interesting ways, this is one of the things that sets me out as a verification engineer. I have managed to break and post bugs in almost every tool I've used, including established tools such as compilers, shells, linkers, assemblers,...

PUBLICATIONS

[CPU Electrical Verification, HP Journal](#), August 1997
(as "David J. Ljung") [[local copy](#)]

[Formal CPU Block Verification, DaveSource.com](#), October 2014
(More successes at [DaveSource.com](#))

EDUCATION

B.S. ECE/CS: [Electrical Computer Engineering, Computer Science](#)
1989-1994: [University Of Wisconsin, Madison](#)

RECOMMENDATIONS

“David is an extremely capable engineer. He has great ideas, and the implementation skills to quickly put them into practice.”

- Technical Director @ Transmeta

“Code and (good!) ideas flow from David like water from a spring... he'll deliver way beyond what you thought possible.”

- Sr Logic Design Engineer @ SandCraft

“He gets the job (freaky complex verification kind of a job) done on-time even when we have been in severe shortage of time and resources.”

- CEO @ 3Plus1, EVP Engr @ iCelero