

# Darren Kulp

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CONTACT INFORMATION 300 4th Street East, Apt. 115 Saint Paul, Minnesota 55101 USA +1 (715) 271-2677 darren@kulp.ch

TECHNICAL EXPERTISE

- Programming: C, x86-64 assembler, Perl, Java, XSL-T, SystemVerilog
- Pragmata: gcc, make, CodeWarrior, Eclipse, Visual Studio, L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub>
- Platforms: Mac OS X; Debian Linux; Windows NT 4.0 – Windows 7

PROFESSIONAL EXPERIENCE

**Cray Inc.**, Saint Paul, Minnesota, USA  
*Engineer – Scientific Libraries* **January 2012 – Present**  
*Engineer – Maths Libraries* **May 2011 – December 2011**  
Analysed and optimised numerical algorithms in x86-64 assembler for the intrinsic mathematical functions of Fortran and C implementations; developed a new run-time algorithm selection system; contributed to development of new compiler features including 128-bit floating point support.

**Cray Inc.**, Chippewa Falls, Wisconsin, USA  
*Engineer – Custom Engineering* **January 2009 – May 2011**  
Developed hardware control programs, abstraction libraries, and a touch-based GUI toolkit for custom supercomputing hardware; conceived and implemented a microcontroller emulation environment and a remote-debugging tool for HCS08 and ColdFire v1; authored client-facing design specifications.

*Intern – Design Verification* **May 2007 – December 2008**  
Rewrote, extended, and created internal tools; developed a database-backed testing-analysis utility with a Perl-driven intranet front-end; created models for ASIC subchip designs and verified logic against them; integrated x86-64 assembly into a SystemVerilog testbench.

**Wausau Financial Systems**, Mosinee, Wisconsin, USA  
*Multiple internships* **September 2003 – May 2007**  
Took initiative in developing tools to interact with third-party products; supported clients' machines and networks by telephone; co-designed and solely implemented a release-management tool using C#.NET and XSL-T; researched and documented installation systems including MSI and NSIS.

SELECTED PERSONAL PROJECTS

- Various Perl and Perl/C modules at <https://metacpan.org/author/KULP>
- Open-source software projects in Perl and C at <https://github.com/kulp>
  - tenyr – Original 32-bit architecture with simulator and assembler
  - fortynt – Freescale HCS08 architectural simulator
  - toycen – C compiler project with emphasis on introspection and visualisation

EDUCATION

**University of Wisconsin**, Eau Claire, Wisconsin, USA **May 2005 – December 2008**  
*Bachelor of Arts, magna cum laude – Computer Science and French*

- ABET-accredited Comprehensive Computer Science major
- Selected courses: Microcontrollers; Advanced CPU Architecture; Computer Networks

**University of Wisconsin**, Stevens Point, Wisconsin, USA **September 2003 – May 2005**

- Pursued general education and French language courses prior to transfer to Eau Claire

SELECTED HONOURS AND AWARDS

Best Paper Award, 41st Annual Midwest Instruction and Computing Symposium  
Kenneth E. Owen Memorial Award  
Scott Seawell Memorial Scholarship

PUBLICATIONS

Darren Kulp and Daniel Ernst, "ISOMER – Augmenting Software Testing Confidence by Automated Comparison with a Lightweight Model", *Proceedings of the 41st Annual Midwest Instruction and Computing Symposium*, pp. 468-480, April 2008.

PERSONAL DETAILS

- Contributes to the open-source community via both original projects and patches
- Possesses outstanding written English communication skills
- Demonstrates fluency at or above CLB/NCLC level 8 for written French, level 7 for spoken French