

# DEAGLAN HALLIGAN

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EDUCATION	M.S., Computer Science, Purdue University	2014
	B.S., Electrical Engineering and Computer Science, UC Berkeley	2008
	B.A., Mathematics, UC Berkeley	2008
WORK	COMPUTER SCIENCE TEACHING ASSISTANT • Purdue University, West Lafayette, IN	2014
	Developed student Java projects and Perl testing software, conducted lab sections	
	CONTRACT DEVELOPER • Sandia National Laboratories, West Lafayette, IN	2011–2014
	Developed generic objected-oriented C++ algorithms for fast distributed linear algebra	
	MATHEMATICS TEACHING ASSISTANT • Purdue University, West Lafayette, IN	2009–2010
	Conducted discussion sections, tutored students and graded student work	
	RESEARCH INTERN • Microsoft Research, Redmond, WA	2009
	Developed C/C++ code for linear algebra and numerical exceptions targeting multicore	
	JUNIOR DEVELOPMENT ENGINEER • UC Berkeley, Berkeley, CA	2009
	RESEARCH ASSISTANT AND DEVELOPER • UC Berkeley, Berkeley, CA	2007–2009
	Implemented Fortran/C algorithms for mixed precision iterative linear solvers in LAPACK	
	MATHEMATICS AND ENGLISH TUTOR • Self-employed, San Francisco, CA	2005–2009
	MATHEMATICS TUTOR • UC Berkeley Academic Services, Berkeley, CA	2007–2008
	UNDERGRADUATE INTERN • Lawrence Livermore National Laboratory, Livermore, CA	2007
	Developed Perl and Python tools for efficient graphical data analysis	
SOFTWARE	<b>Tramonto</b> : C/C++ application for computations in fluid density functional theory	
	<b>Trilinos</b> : Generic object-oriented C++ framework for distributed linear algebra, multiphysics, engineering	
	<b>Numerical PDE</b> : Parallel Scheme FEM code for numerical PDE with C/MPI interface	
	<b>LAPACK 3.2</b> : Fortran algorithms for extra-precise iterative refinement and C testing framework	
	<b>XBLAS 1.0</b> : C BLAS routines for extra-precise iterative refinement algorithms	
	<b>LLNL ARES Project</b> : Perl and Python graphical data analysis code for physics simulation	
TOOLS	Languages: C, C++, Java, Python, Perl, Scheme, MATLAB, Octave, Fortran	
	Frameworks/Libraries: Trilinos, LAPACK, Sca/LAPACK, MPI, Eigen, Intel MKL, OpenMP, Pthreads	
	Development: Debian and Fedora GNU/Linux on x86 and x86-64, GNU/Linux development tools	
	Documentation: L <sup>A</sup> T <sub>E</sub> X, Doxygen, Microsoft Office	
HONORS	Melvin L. Keedy Graduate Scholarship	2009
	California Governor's Scholar	2004
RESEARCH	- with Amalie Frischknecht and Michael Parks. Electrical Double Layers and Differential Capacitance in Molten Salts from Density Functional Theory. Journal of Chemical Physics, July 2014 (paper).	
	- A Semiring Formulation of Boruvka's Algorithm. Purdue Graduate Network and Matrix Computations, December 2011 (term project).	
	- Iterative Refinement for Tiled Factorizations with Exception Handling. Microsoft Research and Microsoft Technical Computing, August 2009 (presentation, report).	
	- with Douglas Mason and Marghoob Mohiyuddin. Nested Dissection Survey. UC Berkeley Graduate Numerical Linear Algebra, December 2008 (term project).	
	- Efficient High-Level Scientific Testing in the Perl Language. Lawrence Livermore National Laboratory Student Poster Symposium, August 2007 (abstract, poster).	