

BRENDAN A. DUNCAN

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- SUMMARY** Software engineer seeking key participation, immediate challenges, and a career opportunity. Proven collaborative skills. Thorough, organized, and scientific, with an enthusiasm for innovation.
- EDUCATION** **MS in Computer Science, Stanford University** expected June 2011
- GPA 3.80.
- BS in Computer Science, University of California, San Diego** June 2009
- Degree awarded *summa cum laude*. GPA 3.90.
 - Phi Beta Kappa honor society.
 - Tau Beta Pi honor society.
- SKILLS** C++, C, Java, MATLAB, Perl, PHP, Python, OCaml, Bash, HTML, L^AT_EX, Verilog, MIPS, SPARC, SQL, OpenGL, OpenGL Shading Language, OpenCV, JDBC, COM.
VIM, Microsoft Visual Studio, Photoshop, Perforce, Eclipse, Xilinx ISE, Microsoft Excel.
- COURSE TOPICS** Computational photography, applied vision and image systems, computer vision, graphics, object-oriented programming, software design, computer architecture, logical circuit design, networks, operating systems, compiler design, databases, efficiency, computability.
Numerical analysis, vector calculus, differential equations, linear algebra, discrete mathematics.
- EXPERIENCE** **Tutor for Data Structures, UCSD, San Diego, CA** April 2007 - June 2009
- As head tutor, collaborated with professor to improve course structure and assignments.
- Interim Engineering Intern, Qualcomm, San Diego, CA** June 2008 - November 2008
- Developed a Windows application allowing testers to design, modify, and run automated PHP test scripts for the team's cell phone application. Used C++, Microsoft Visual Studio, and COM objects. Created extensive documentation and trained testers in the use of this application.
 - Created Perl and PHP scripts using Perforce commands to automate weekly application release.
- Programmer, Global CONNECT, San Diego, CA** Summer 2007 and 2009
- Using Perl and Bash scripts in a Cygwin environment, implemented sorting and search algorithms to efficiently collect, filter, and examine large amounts of data.
 - Used regular expressions to extract data sought by research team of economists and statisticians.
- COURSE PROJECTS** **Computational Photography**
- Aligned successive images on foreground and background objects using SIFT and RANSAC. Used selective averaging to create a low-noise result while preventing ghosting.
 - Designed and implemented on a programmable camera an efficient contrast detection autofocus algorithm using golden section search.
- Graphics**
- Created hierarchical model animations, a UI using OpenGL, and image filters using GLSL.
 - Implemented wavelet compression, subdivision surfaces, and matte extraction.
- Computer Architecture Lab**
- Devised a customized ISA specifically optimized to solve assigned problems. Used Xilinx ISE and Verilog to create a working, pipelined CPU for this architecture.
- Object-Oriented Programming from a Modeling and Simulation Perspective**
- Designed and implemented in C++ a shipping network simulation using multiple shipment routing algorithms, notifications, and real- and virtual-time events.