

# NIELS JOUBERT

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RESEARCH GOAL	Applying programming language approaches and human computer interaction techniques to design an ultra-productive experience for scientific and educational systems.	
EDUCATION	<p><b>Stanford University</b> (2009 – present, Stanford, CA.) Ph.D Candidate in Computer Science, in Prof. Hanrahan’s Graphics group, expected graduation: 2015.</p> <p><b>University of California, Berkeley</b> (2005 – 2009, Berkeley, CA.) B.Sc. Honors in Electrical Engineering and Computer Science. Cumulative GPA: 3.86</p> <p><b>Los Altos High School, Grade 12</b> (2005, Los Altos, CA) Valedictorian, Cumulative Unweighted GPA: 4.0</p> <p><b>Paul Roos Gymnasium, Grade 8 – 11</b> (2001 – 2005, Stellenbosch, South Africa.) Valedictorian. Grade: 108%</p>	
SKILLS	<p><b>Software Development</b> on *NIX, Mac using C/C++, Objective C, Scala, Python, Scheme/LISP. Experienced in multiple programming paradigms including functional and object-oriented programming.</p> <p><b>Graphics Programming</b> Physically-Based Rendering, Physical Simulation, OpenGL, CUDA/OpenCL</p> <p><b>Full-Stack Web Development</b> using HTML5/CSS, JavaScript, Node.js, RubyOnRails, PHP, AJAX</p> <p><b>Mobile Development</b> using Objective C and the iOS framework, HTML5/CSS mobile webapps</p>	
PUBLICATIONS & PROJECTS	<p>For a complete portfolio of projects and publications, see my online portfolio at <a href="http://njoubert.com/">http://njoubert.com/</a></p> <p>“Liszt: A domain specific language for building portable mesh-based PDE solvers,” Z. DeVito, N. Joubert, F. Palacios, S. Oakley, M. Medina, M. Barrientos, E. Elsen, F. Ham, A. Aiken, K. Duraisamy, E. Darve, J. Alonso, P. Hanrahan: High Performance Computing, Networking, Storage and Analysis (SC), 2011 International Conference for SuperComputing, pp.1-12, 12-18 Nov. 2011</p> <p>Enhancing online personal connections through the synchronized sharing of online video. D. A. Shamma, M. Bastea-Forte, N. Joubert, and Y. Liu. 2008. In CHI ’08 extended abstracts on Human factors in computing systems (CHI EA ’08). ACM, New York, NY, USA, 2931-2936.</p> <p>Performance Visualization and Error Remediation Toolkit. N. Joubert, and E. Schkufza. In Progress, 2011</p> <p>Burple: an iOS app for real-time group location sharing, 2009</p>	
RESEARCH EXPERIENCE	<p><b>Ph.D Student, Stanford Computer Graphics Group</b>, 09/2009-present: Programming Languages and Systems researcher under Prof. Pat Hanrahan.</p> <p><b>Undergraduate Researcher, Berkeley Computer Animation &amp; Modeling Research Group</b>, 08/2008 – 08/2009: under Prof. James O’Brien. Projects include physical simulations of deformable thin surfaces and fracture.</p> <p><b>Research Intern, Yahoo! Research Berkeley</b>, 01/2007 – 01/2008: Investigated synchronized video sharing and location-aware software.</p> <p><b>Undergraduate Researcher, Berkeley Supernova Research Team</b>, 06/2006 – 06/2008: under Prof. Fillipenko</p>	
RELEVANT COURSEWORK	CS 147 Human Computer Interaction CS 448B Information Visualization CS 348B Image Synthesis Techniques  CS 294 Physically Based Animation (P) CS 170 Efficient Algorithms (A-) CS 188 Artificial Intelligence (A) CS 184 Computer Graphics (A+) CS 162 Operating Systems (A) CS 61C Machine Structures, C and MIPS (A) CS 61B Data Structures and Java (A) CS 61A Program Structure and Interpretation (A+)	CS 149 Parallel Programming CS 242 Programming Languages CS 243 Program Analysis & Optimization  Math 110 Linear Algebra (A) EE 126 Probability and Random Processes (B) EE 122 Computer Networks (A) EE 120 Signals Processing (A) EE 40 Microelectronic Circuits (A) EE 20N Signals and Systems (A) Astro121 Radio Astronomy (A+)

PROFESSIONAL  
EXPERIENCE

**CTO, Brutesoff Inc**, 01/2009 – present: startup in enterprise software distribution using P2P technologies.

**Visualization Developer for VMWorld and SXSW, Lumens Productions**, 08/2010 – 08/2011: Developed a crowdsourced automatic DJ and Music Visualization system, presented at VMWorld and SXSW parties.

**Software Intern, Pixar Animation Studios, Next Generation Tools**, 06/2008 – 08/2008: Extended Pixar's in-house animation tool to support symmetry in rigging models, and NURBS surface animation.

TEACHING  
EXPERIENCE

**Course Assistant, Stanford University Computer Science Department**, CS 243 (Program Analysis and Optimization, Winter 2012), CS148 (Computer Graphics, Summer 2010), CS193P (CUDA Programming, Winter 2010)

**Student Instructor, UC Berkeley Computer Science Department**, CS184 (Computer Graphics, Rated 4.6/5.0, Spring 2009), CS184 (Computer Graphics, Rated 4.9/5.0, Fall 2008)

**Tutor, UC Berkeley Self-Paced Learning Center**, CS3S (Introduction to Computer Science, )

AWARDS &  
HONORS

2011 – Passed Computer Science Qualification Exams, became Ph.D. Candidate

2009 – Received 3-year Reed-Hodgson Stanford Graduate Fellowship Fund

2009 – Outstanding Graduate Student Instructor award received as an undergrad.

2008 – Golden Key Club nominee as a student in the top 5% of UC Berkeley.

2007 – Elected as Industrial Relations Officer for the HKN Engineering Honors Society

2007 – Accepted into Berkeley's B.Sc. Honors Degree program

2006 – Yahoo! University Hack Day winner at UC Berkeley.

2006 – Recipient of William B. Slottman Award as the best counselor for incoming students.

2005 – Chancellor's Honors for outstanding academic achievement at UC Berkeley.

2002 – Gold Medal in Expo for Young Scientists, recipient of Electrical & General Engineering prizes.

INTERESTS &  
ACTIVITIES

KZSU Radio DJ, Motorcycling, Mountain Biking, Snowboarding, Music (Violin, Bass Guitar and DJing), Amateur Radio (Z1RNJ), Videography

