NIELS JOUBERT

Ph.D Candidate • Stanford University • (650) 823-1662 • njoubert.com • njoubert@stanford.edu

RESEARCH GOAL

Building systems and tools that broaden people's cognitive and physical abilities while reducing the demands placed on the user. This is accomplished by matching the system to people's mental model of the task they want to accomplish, whether that is creating compelling media, learning new skills and knowledge, understanding software or creating new software.

EDUCATION

Stanford University (2009 – present, Stanford, CA.)
Ms.CS (2013). Ph.D Candidate in Computer Science, advised by Prof. Hanrahan, expected graduation 2015.

University of California, Berkeley (2005 – 2009, Berkeley, CA.)
B.Sc. Honors in Electrical Engineering and Computer Science. Cumulative GPA: 3.86

Los Altos High School, Grade 12 (2005, Los Altos, CA) Valedictorian, Cumulative Unweighted GPA: 4.0

SKILLS

Software Development on *NIX & Mac using multiple programming paradigms including functional and OO.

Hardware Prototyping for embedded systems and radio comms on Arduino, STM32, Pixhawk, ham radio

Graphics Programming Physically-Based Rendering, Phyisical Simulation, OpenGL, CUDA/OpenCL

Full-Stack Web Development using HTML5/CSS, JavaScript, Node.js, RubyOnRails, PHP, AJAX

Mobile Development using Objective C and the iOS framework, HTML5/CSS mobile webapps

PUBLICATIONS & PROJECTS

"Designing Feasible Trajectories for Quadrotor Cameras" Joubert et al. (SIGGRAPH 2015, in submission)

"Lambdabooks" Digital Textbooks Project: Explaining, Authoring, and Layout N.Joubert et al, (Tech Report)

SNAPS: Stanford Nano Picture Satellite, Communications Subsystems N.Joubert et al. Tech Report, 2013

"Liszt: A domain specific language for building portable mesh-based PDE solvers" Z. DeVito et al. In High Performance Computing, Networking, Storage and Analysis (SC), 2011 International Conference for Super-Computing

"Performance Visualization and Error Remediation Toolkit" N. Joubert, and E. Schkufza. Tech Report, 2011

"Burble: an iOS app for real-time group chat and location sharing" Tech Report, 2009

"Enhancing online personal connections through the synchronized sharing of online video" D. A. Shamma et al. In CHI '08 extended abstracts on Human factors in computing systems

RESEARCH EXPERIENCE

Ph.D Student, Stanford Computer Graphics Group, 09/2009-present: Systems researcher under Prof. Pat Hanrahan.

Undergraduate Researcher, Berkeley Computer Animation & Modeling Research Group, 08/2008 – 08/2009: under Prof. James O'Brien. Projects include physical simulations of deformable thin surfaces and fracture.

Research Intern, Yahoo! Research Berkeley, 01/2007 – 01/2008: Investigated synchronized video sharing and location-aware software.

Undergraduate Researcher, Berkeley Supernova Research Team, 06/2006 – 06/2008: under Prof. Fillipenko

RELEVANT COURSEWORK

CS 147 Human Computer Interaction	CS 149 Parallel Programming
CS 448B Information Visualization	CS 242 Programming Languages
CS 348B Image Synthesis Techniques	CS 243 Program Analysis & Optimization
	CS 228 Probabilistic Graphical Models
CS 294 Physically Based Animation (P)	
CS 170 Efficient Algorithms (A-)	Math 110 Linear Algebra (A)
CS 188 Artificial Intelligence (A)	EE 126 Probability and Random Processes (B)
CS 184 Computer Graphics (A+)	EE 122 Computer Networks (A)
CS 162 Operating Systems (A)	EE 120 Signals Processing (A)
CS 61C Machine Structures, C and MIPS (A)	EE 40 Microelectronic Circuits (A)
CS 61B Data Structures and Java (A)	EE 20N Signals and Systems (A)
CS 61A Program Structure and Interpretation (A+)	Astro121 Radio Astronomy (A+)

PROFESSIONAL EXPERIENCE

Software Consultant, Swift Navigation, 01/2014 – present: Developed RTK-capable embedded GPS - responsible for integration with AutoPilot hardware, GPS simulator, RF analysis and in-situ testing on quadcopters.

Expert Witness Consultant, Feinberg Day, 01/2010 – present: performed software analysis for patent law and FTC legal cases on HTC v.s. Apple, IV vs CapitalOne

CTO, Brutesoft Inc, 01/2009 – 01/2013: led technical development of 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

2013 - Received Masters of Computer Science at Stanford University
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 (W6ZNJ), Videography (youtube.com/njoubert)