



Sajjad Taheri



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EDUCATION	Ph.D. Computer Science, UC Irvine,	2019 (Expected)
	Thesis: <i>Towards engineering computer vision systems: from web to FPGAs</i>	
	M.S. Computer Engineering, University of Tehran, Iran,	2013
	B.S. Computer Engineering, University of Tehran, Iran,	2010
INDUSTRY	<i>Google Summer of Code (GSoC) Mentor</i>	
	OpenCV Foundation	Summer 2017
	Helped with mentoring two students participating in GSoC towards preparing documentation and web based tutorials for OpenCV.	
	<i>JavaScript Engineering Intern</i>	
RESEARCH PROJECTS	Mozilla	Summer 2015
	Contributed to FireFox JavaScript JIT compiler to support more ECMAScript SIMD (formerly known as SIMD.js) data types and operations.	
	Vectorized several gl-matrix matrix and vector functions using SIMD.js API.	
	OpenCV.js: Developed the initial version of OpenCV.js, a JavaScript binding for OpenCV library which brings hundreds of image processing and computer vision functions to web browsers with near native performance. Languages used: C++, JavaScript, HTML5, Python. <u>highlighted in the EE times</u>	
HONORS AND AWARDS	AFFIX: Developed a framework for FPGA acceleration of high level computer vision algorithms that are modeled as task graphs (based on OpenVX spec). It includes algorithm graph verification and optimizer, and code generator that targets both CPU (OpenCV) and FPGA (OpenCL). Languages used: OpenCL (C99), Python, C++, CMake.	
	WebRTCBench: Contributed to development of a benchmark for performance evaluation of WebRTC implementations. Languages used: JavaScript, HTML5.	
	UCI Dean Fellowship, 4 years of full financial support.	2013
	Top %0.1 of Country, Ranked 296 among 200,000 high school students in nationwide university entrance exam.	2005

SKILLS AND TOOLS	<ul style="list-style-type: none"> • Programming Languages: Proficient in Python, C/C++, JavaScript, Java, and assembly languages, familiar with C#, Haskell, and Rust • Web Standards: WebRTC, WebAssembly, SIMD.js • Software Development Productivity: CMake, Doxygen, Gtest, Sphinx, Git, and GitHub • Office Productivity: L^AT_EX and PGF/TikZ 🧑🎨 • Compiler Construction: LLVM, ANTLR • Hardware Design and Verification: OpenCL, Verilog, SystemC, and TCL • Machine Learning and Data Mining: Caffe, Pytorch, Weka • Algorithmic Programming and Problem Solving 	
TEACHING AND MENTORING EXPERIENCES	<p><i>Mentor</i></p> <p>UCI International Summer Undergraduate Research 2016 and 2017</p> <ul style="list-style-type: none"> • Proposed research projects for undergraduate interns from Korean universities and supervised them in completing them. <p><i>Teaching Assistant</i></p> <ul style="list-style-type: none"> • Introduction to Computer Organization, UC Irvine • Discrete Mathematics for Computer Science, UC Irvine • Principles of Operating Systems, UC Irvine • Data Structures, UC Irvine 	
SELECT CONFERENCE PAPERS	<p>[1] S. Taheri, P. Behnam, E. Bozorgzadeh, A. V. Veidenbaum, A. Nicolau, "AFFIX: Automatic Acceleration Framework for FPGA Implementation of OpenVX Vision Algorithms", ACM/SIGDA Symposium on Field-Programmable Gate Arrays (FPGA) 2019.</p> <p>[2] S. Taheri, A. V. Veidenbaum, A. Nicolau, N. Hu, and M. Haghighat, "OpenCV.js: Computer Vision Processing for the Open Web Platform", ACM Multimedia Systems (MMSys) 2018.</p> <p>[3] P. Behnam, B. Alizadeh, S. Taheri, M Fujita, "Formally analyzing fault tolerance in datapath designs using equivalence checking", Asia and South Pacific Design Automation Conference (ASP-DAC) 2016.</p> <p>[4] S. Taheri, L. Beni, A. V. Veidenbaum, A. Nicolau, R. Cammarota, Jianlin Qiu, Qiang Lu and M. Haghighat, "WebRTCBench: Performance Assessment of WebRTC Implementations", ACM/IEEE Embedded Systems for Real-time Multimedia (ESTIMEDIA) 2015.</p>	
MAGAZINE ARTICLES	<p>[5] S. Taheri, A. V. Veidenbaum, A. Nicolau, N. Hu, and M. Haghighat, "Computer Vision for the Masses: Bringing Computer Vision to the Open Web Platform", Intel Parallel Universe Magazine, April 2018 issue.</p>	
OTHER	<p>[6] S. Taheri <u>Bringing the Power of SIMD.js to gl-matrix</u>, Mozilla Hacks Blog, 2015.</p>	
PRESENTATIONS	Improving OpenVX Application Development and Optimization Process for FPGAs Systems, Intel, Santa Clara.	May 2017
ACADEMIC SERVICES	Peer-reviewer for International Journal of Parallel Programming (IJPP)	
COMMUNITY SERVICES	Co-host "Static Waves" music show on KUCI radio station	Fall-Winter 2016