

# Sajjad Taheri

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- EDUCATION
- ♦ **Ph.D. in Computer Science, UC Irvine** **June 2019 (Expected)**  
Thesis: *Towards engineering computer vision systems: from web to FPGAs*
  - ♦ M.S. in Computer Engineering, University of Tehran, Iran 2013
  - ♦ B.S. in Computer Engineering, University of Tehran, Iran 2010
- INDUSTRY
- ♦ *Google Summer of Code (GSoC) Mentor*  
**OpenCV Foundation** Summer 2017  
Helped with mentoring two students participating in GSoC towards preparing documentation and web based tutorials for OpenCV.
  - ♦ *JavaScript Engineering Intern*  
**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 and achieved more than 2x speedup.
- RESEARCH PROJECTS
- ♦ **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.  
[highlighted in the EE times](#)
  - ♦ **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 a graph compiler that translates computer vision algorithms to CPU and FPGA targets. Languages used: OpenCL (C99), Python, C++, CMake.
  - ♦ **WebRTCBench**: Contributed to development of a benchmark for performance evaluation of WebRTC implementations. Languages used: JavaScript, HTML5.
- SKILLS AND TOOLS
- Programming Languages: Proficient in Python, C/C++, JavaScript, Java, familiar with C#, Haskell, and Rust
  - Software Development Productivity: CMake, Doxygen, Gtest, Sphinx, Git, and GitHub
  - Office Productivity:  $\LaTeX$  and PGF/TikZ 🧑🎨
  - Computer Vision and Machine Learning: OpenCV, PCL, Caffe, Pytorch, Weka
  - Compiler Construction: LLVM, ANTLR
  - Web Standards: WebRTC, WebAssembly, SIMD.js
  - Algorithmic Programming and Problem Solving
- HONORS AND AWARDS
- ♦ UCI Dean Fellowship, 4 years of full financial support. 2013
  - ♦ Top %0.1 of country, ranked 296 among 200,000 in nationwide university entrance exam. 2005

TEACHING AND MENTORSHIP	<ul style="list-style-type: none"> <li>◇ <b>Mentor</b> <ul style="list-style-type: none"> <li>UCI International Summer Undergraduate Research <span style="float: right;">2016 and 2017</span></li> <li>• Proposed research projects for undergraduate interns from Korean universities and supervised them in completing them.</li> </ul> </li> <li>◇ <b>Teaching Assistant</b> <ul style="list-style-type: none"> <li>• Introduction to Computer Organization, UC Irvine</li> <li>• Discrete Mathematics for Computer Science, UC Irvine</li> <li>• Principles of Operating Systems, UC Irvine</li> <li>• Data Structures, UC Irvine</li> </ul> </li> </ul>
CONFERENCE PAPERS	<ul style="list-style-type: none"> <li>◇ 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.</li> <li>◇ 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.</li> <li>◇ 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.</li> <li>◇ 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.</li> </ul>
MAGAZINE ARTICLES	<ul style="list-style-type: none"> <li>◇ S. Taheri, A. V. Veidenbaum, A. Nicolau, N. Hu, and M. Haghighat, "<u><a href="#">Computer Vision for the Masses: Bringing Computer Vision to the Open Web Platform</a></u>", Intel Parallel Universe Magazine, April 2018 issue.</li> </ul>
OTHER	<ul style="list-style-type: none"> <li>◇ S. Taheri <u><a href="#">Bringing the Power of SIMD.js to gl-matrix</a></u>, Mozilla Hacks Blog, 2015.</li> </ul>
PRESENTATIONS	<ul style="list-style-type: none"> <li>◇ Improving OpenVX Application Development and Optimization Process for FPGAs Systems, Intel, Santa Clara. <span style="float: right;">May 2017</span></li> </ul>
ACADEMIC SERVICES	<ul style="list-style-type: none"> <li>◇ Peer-reviewer for International Journal of Parallel Programming (IJPP)</li> </ul>
COMMUNITY SERVICES	<ul style="list-style-type: none"> <li>◇ Co-host "Static Waves" music show on KUCI radio station <span style="float: right;">Sep. 2016 - March 2017</span></li> </ul>