

Sajjad Taheri

CONTACT INFORMATION

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GitHub: <https://www.github.com/sajjad>

EDUCATION

[University of California, Irvine](#) (School of ICS), Irvine, CA

P.h.D. in Computer Science

2013-2019 expected

[University of Tehran](#) (School of ECE), Tehran, Iran

B.Sc. and M.Sc. in Computer Engineering

2005-2013

PROFESSIONAL EXPERIENCES

UC Irvine, Irvine, CA

Graduate Student Researcher

Sep 2014 to present

- FPGA Acceleration of Data-flow-based Computer Vision Algorithms
- High-performance Computer Vision Processing for the Open Web Platform
- Performance Assessment of WebRTC implementations

Mozilla, Mountain View, CA

JavaScript Engineering Intern

Jun 2015 to Sep 2015

- Improved SIMD support for SpiderMonkey JavaScript engine
- Vectorization of gl-matrix library with SIMD.js

TEACHING AND MENTORING EXPERIENCES

Mentor

Google Summer of Code

Summer 2017

- Helped mentoring two students participating in Google Summer of Code program towards completing their proposed projects for OpenCV organization.

UCI International Summer Undergraduate Research

Summers 2016 and 2017

- Proposed research projects for undergraduate interns
- Supervised undergraduate students from Korean universities in completing proposed projects

Teaching Assistant

- Introduction to Computer Organization, UC Irvine
- Discrete Mathematics for Computer Science, UC Irvine
- Principles of Operating Systems, UC Irvine
- Data Structures, UC Irvine

SKILLS AND TOOLS

- **Programming Languages:** Functional: {Haskell}, Imperative: {Python, JavaScript, C/C++, Rust, and Java}
- **Software Development Productivity:** CMake, Git and GitHub
- **Hardware Design and Verification:** OpenCL, Verilog, SystemC and TCL scripting
- **Scientific:** SAT solvers and integer programming optimization toolkits
- **Machine Learning and Data Mining:** Caffe, Pytorch, Weka
- **Office Productivity:** L^AT_EX and PGF/TikZ 🐼
- **Algorithmic Programming and Problem Solving** Participated in numerous ACM ICPC events

RESEARCH INTERESTS	Programming Languages and Compilers Web Technologies	Computer Vision Acceleration
CONFERENCE PAPERS	<p>[1] S. Taheri, P. Behnam, E. Bozorgzadeh, A. V. Veidenbaum, A. Nicolau, "AF-FIX: Automatic Acceleration Framework for FPGA Implementation of OpenVX Vision Algorithms", ACM/SIGDA FPGA'19.</p> <p>[2] S. Taheri, J. Heo, P. Behnam, A. V. Veidenbaum, A. Nicolau, "Acceleration Framework for FPGA Implementation of OpenVX Graph Pipelines", IEEE FCCM'18.</p> <p>[3] S. Taheri, A. V. Veidenbaum, A. Nicolau, N. Hu, and M. Haghighat, "OpenCV.js: Computer Vision Processing for the Open Web Platform", ACM MMSys'18.</p> <p>[4] P. Behnam, B. Alizadeh, S. Taheri, M Fujita, "Formally analyzing fault tolerance in datapath designs using equivalence checking", ASP-DAC'16.</p> <p>[5] 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 ESTIMEDIA'15.</p>	
MAGAZINE ARTICLES	<p>[6] 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. Syndicated by EE Times.</p>	
OTHER	<p>[7] S. Taheri Bringing the Power of SIMD.js to gl-matrix, Mozilla Hacks Blog, 2015.</p>	
PRESENTATIONS	<p>Improving OpenVX Application Development and Optimization Process for FPGAs Systems, Intel, Santa Clara. May 2017</p>	
SELECTED PROJECTS	<ul style="list-style-type: none"> • OpenCV.js: OpenCV in JavaScript. Available at https://github.com/ucisysarch/opencvjs • SIMD.js vectorizaion for gl-matrix. Available at https://github.com/toji/gl-matrix • An optimizable compiler for PL241 language: Developed from scratch without using thrid-party libraries, includes SSA-based optimizations, linear scan register allocation, and code generation. Available at https://github.com/sajjad/pl241compiler • A benchmark for WebRTC implementations. Available at https://github.com/ucisysarch/WebRTCBench 	
ACADEMIC SERVICES	<p>Peer-reviewer for International Journal of Parallel Programming (IJPP)</p>	
COMMUNITY SERVICES	<p>Co-host "Static Waves" music show on KUCI radio station Fall-Winter 2016</p>	
REFERENCES	<p>Alex Nicolau Distinguished Professor Computer Science Department UC Irvine ✉ nicolau@ics.uci.edu</p>	<p>Alex Veidenbaum Professor Computer Science Department UC Irvine ✉ alexv@ics.uci.edu</p>
	<p>Moh Haghighat Senior Principal Engineer Intel Corporation ✉ mohammad.r.haghighat@intel.com</p>	