

CONTACT INFORMATION	<i>Address:</i> Los Angeles, CA, USA <i>E-mail:</i> basel921@gmail.com	<i>WWW:</i> basels.github.io
EDUCATION	University of Southern California; Los Angeles, CA, USA PhD Student, Computer Science Research Interests: Knowledge Graphs, Semantic Web, Linked Open Data, Machine Learning, Information Extraction, Information Technology, Computer Networks Tel Aviv University; Tel Aviv, Israel BSc, Electrical and Electronic Engineering, <i>magna cum laude</i> (Cumulative GPA: 93.33/100) Major Coursework Areas: Computer-Science, Communications and Electronic Devices Honors Thesis: <ul style="list-style-type: none">• “<i>IPoIB Router in the Switch-X Product Family: from Firmware Design to Implementation of the Verification Environment and the Debug Tools</i>” (Supervisor: Mr. Ami Marelli) Additional Research: <ul style="list-style-type: none">• “<i>Physical Design of 12-bit Two’s Complement Adder</i>”(Supervisors: Prof. Yosi Shacham, Mr. Avi Efrati)• “<i>Logic Design of full simplified DLX using FPGA</i>” (Supervisors: Mrs. Liron David, Mr. Marko Markov) Israel Arts and Science Academy (IASA); Jerusalem, Israel High School Major in Physics, Computer Science and Chemistry, <i>cum laude</i>	Aug 2018 - Present Feb 2011 - Jan 2015 Sep 2007 - Jun 2010
ACADEMIC EXPERIENCE	Information Sciences Institute; Marina del Rey, CA, USA Research Assistant, <i>Center on Knowledge Graphs</i> <ul style="list-style-type: none">• Working on knowledge graphs and the semantic web with an emphasis on data normalization as a means to solve complex information integration problems• Investigating new methodologies to leverage machine learning techniques and knowledge graphs to establish automatic data extraction tools for scientific modeling	Aug 2018 - Present
PROFESSIONAL EXPERIENCE	Apple; Herzliya, Israel Embedded Firmware Engineer, <i>Flash Storage Software Department</i> <ul style="list-style-type: none">• Designed and developed complex software modules for ultra high performance, real-time embedded systems in a multiprocessor environment for Apple products• Defined firmware features and led HW-FW integrations• Completed vertical integration with other modules in storage stack (i.e. drivers, file-system) Mellanox Technologies; Tel Aviv, Israel Senior Firmware Engineer & Team Leader, <i>Switch Silicon Core Department</i> <ul style="list-style-type: none">• Managed team of 5 engineers• Led the 100GbE Switch Systems firmware development process and software infrastructure activities - an operation involving 16 engineers• Developed a distributed functional testing environment; debug tools and performance testing in C++ in Unix for both Ethernet and InfiniBand fabrics in OSI Data-Link and Network layers• Implemented complex verification architectures consisting of static and dynamic analysis• Delivered technical presentations to 50+ engineers and developers from various teams including: software, hardware, production, and qualification• Awarded for excellence and ranked “Superior” (top 5% out of 3000) Team Leader Firmware Engineer, <i>Switch Silicon Core Department</i> <ul style="list-style-type: none">• Managed team of 3 engineers• Contributed to end-to-end development and defined version-release procedures for the company’s 100GbE Switch products• Conducted personal training, code reviews; defined coding-style and methodologies of software engineering for team of 30• Optimized shared library cross-platform code, resulting in 40% reduction in project compilation time for 90+ department developers• Led full silicon bring-up process, both Pre-Silicon and Post-Silicon stages	Jan 2018 - Jun 2018 2011 - 2017 Apr 2017 - Jun 2017 May 2015 - Mar 2017

- Negotiated integration process with leaders of partner companies such as Cumulus and Microsoft
- Supervised remote testing processes operating in Beijing (China), Seattle and Sunnyvale (US)
- Interviewed and effectively participated in the hiring and termination of employees

Firmware Engineer, *Switch Silicon Core Department*

Mar 2014 - Apr 2015

- Achieved 2nd place in Hackathon with "Scaling FW Switch Reference Model to Higher Layers"; The simulation tool saved up to 50% time in FW development cycle & customer support
- Created training-program for new employees, including dedicated code library and practical tasks
- Led the planning and priorities coordination procedure with software architecture and SDK teams
- Developed "Stress" tool that has become major tool for system production/screening, power measurements and debug process
- Conducted daily technical and verification-architectural guidance and coding assistance

Firmware Student, *Switch Silicon Core Department*

Oct 2011 - Feb 2014

- Developed ANSI-C compiler-specific code to run on Switch Systems RISC
- Managed continuous support and optimization in Switch System Python-based regression scripts
- Implemented cross-platform error-injection and functional-validity tool used by both departments of Switch Systems and Channel Adapters
- Collaborated with chip-design and software engineers to create a Post-Silicon Random Verification Environment for the 56GbE and EDR (100Gbps Infiniband) technologies

TEACHING EXPERIENCE

University of Southern California; Los Angeles, CA, USA

Spring 2020

Teaching Assistant, *CSCI 563/INF 558: Building Knowledge Graphs*

- Designed and evaluated course examinations, written assignments, and weekly quizzes.
- Held weekly office hours.
- Presented some of my work and research to the class.

INTERNSHIPS

Research Science Institute; Cambridge, MA, USA

2009

Research Intern (Computer-Science)

- Studied Statistical Natural Language Processing, Automatic Speech Recognition and Machine Learning; performed model training and testing with Python
- Wrote paper titled "*Improving Text-Independent Speaker Identification Performance Using Gaussian Mixture Speaker Models*" under direction of Dr. David Palmer (HP Autonomy (Virage), Inc).
- Conducted on-campus coursework in scientific theory and off-campus work in scientific research over 6 weeks under sponsorship of the Center for Excellence in Education and MIT

AWARDS AND SCHOLARSHIPS

Modeling and Managing Complicated Systems Institute; Pittsburgh, PA, USA

2019

Recipient of the Ford Foundation MWS19 Graduate Student Travel Grant (value \$1,600)

Tel Aviv University; Tel Aviv, Israel

2013

Faculty Deans List of Outstanding Undergraduate Students

Tel Aviv University; Tel Aviv, Israel

2013

Recipient of the Freescale Semiconductor Israel Excellence Scholarship (value \$1,200)

CONFERENCES AND OFFICIAL EVENTS

The 15th IEEE eScience Conference; San Diego, CA, USA

2019

Workshop on Advanced Knowledge Technologies for Science in a FAIR World (AKTS)

- Published paper and delivered an oral presentation at the workshop

The 2019 Modeling the World's Systems Conference; Washington, D.C., USA

2019

Conference on the technology and policy of modeling and managing interacting complex systems

- Published paper and delivered an oral presentation and poster

The 2016 VSF Interoperability Event; The Woodlands, TX, USA

2016

Video Service Forum annual video broadcast networking interoperability event

- Performed testing of HBRMT (High Bit Rate Media Transport over IP)
- Studied extensively video broadcast networking technologies and standards

Haifa Verification Conference (HVC); Haifa, Israel

2015

EXTRACURRICULAR ACTIVITIES

- The 26th IBTA InfiniBand and RoCE Plugfest**; Durham, NH, USA **2014**
Infiniband Trade Association event to measure compliance of vendors with the IBTA specifications
- Performed interoperability testing of Infiniband and RDMA over Converged Ethernet
 - Collaborated with various vendors to improve testing plan design
- PhD Student Supervisor, IUSSTF at USC**; Los Angeles, CA, USA **2019**
- Supervised and mentored an intern student (IIT Delhi) in the Indo-U.S. Science and Technology Forum (IUSSTF) at USC-ISI working on leveraging semantics to geospatial data using reverse-geocoding services (i.e. OpenStreetMap), instance matching and ranking algorithms
- "Midburn": Israeli Burning Man Regional Organization**; Negev, Israel **2016 - 2018**
- Supervised art installation procedures
 - Contributed code to development of "Dreams", an open-source platform to help community plan co-created events
- "Tira Academics": Students Volunteering Association**; Tira, Israel **2013 - 2017**
- Co-initiated association to expand academic opportunities for freshmen and high-school students
 - Tutored freshmen engineering students, provided 1-on-1 guidance with Algebra, Calculus, C/Python programming and conducted workshops on a quarterly basis
- Event Production Team (THP) at IASA**; Jerusalem, Israel **2007 - 2010**
- Led crew of 15 students
 - Supervised and executed complex lighting and sound constructions and operations
 - Wrote manual delineating guidelines and technical work with sound and light equipment
- Senior-Year Fund-Raising Team at IASA**; Jerusalem, Israel **2009 - 2010**
- Operated as head of team; led operations involving 50 students
 - Produced fund-raising activities totaling > \$5,000
 - Developed online-market web-application enabling students to purchase and exchange items
- "Sal Gal": Basketball Program for Disabled Youth**; Jerusalem, Israel **2008 - 2010**
- Led weekly activities and sports games for physically challenged and disabled basketball players
- "Shema":** **2007 - 2008**
 A Therapeutic Educational Center for Students with Hearing Impairment; Jerusalem, Israel
- Led weekly activities and educational workshops for physically challenged children in ages 8-10

PUBLICATIONS

- B. Shbita**, B. Vu, D. Feldman, M. Pham, A. Rajendran, C. Knoblock, J. Pujara, and Y. Chiang. Creating a FAIR Data Catalog to Support Scientific Modeling. Workshop on Advanced Knowledge Technologies for Science in a FAIR World (AKTS), 2019.
- B. Shbita**, A. Rajendran, J. Pujara, and C. Knoblock. Parsing, Representing and Transforming Units of Measure, in Modeling the World's Systems, 2019.

LANGUAGES

English • Arabic • Hebrew • Russian

TECHNICAL SKILLS

- Python, C, C++, C#, MATLAB, VHDL, Cadence PSpice and Assura (Virtuoso)
- RDF, Turtle and SPARQL
- SQL, PostgreSQL and PostGIS
- Unix shell, Bash and Perl scripting
- Ruby on Rails, HTML, CSS, Node.js and Flask
- Win32 applications, Dot-Net C# Web, Console applications and Batch scripting
- PC platforms – MS Visual Studio, Eclipse, Adobe Photoshop, Adobe Premiere and Ableton Live

HOBBIES AND INTERESTS

Graphic Design • Figure Drawing • Music Production • Soccer • Combined Martial Arts