Basel Shbita

CONTACT INFORMATION

Address: Los Angeles, CA, USA   *WWW:* basels.github.io
E-mail: basel921@gmail.com

EDUCATION

University of Southern California; Los Angeles, CA, USA   **Aug 2018 - Present**

PhD Student, Computer Science
Research Interests: Information Integration, Artificial Intelligence, Knowledge Graphs, Semantic Modeling, Machine Learning

Tel Aviv University; Tel Aviv, Israel   **Feb 2011 - Jan 2015**

BSc, Electrical and Electronic Engineering, *magna cum laude* (Cumulative GPA: 93.33/100)
Major Coursework Areas: Computer-Science, Communications and Electronic Devices
Honors Thesis:

- *"IPoIB Router in the Switch-X Product Family: from Firmware Design to Implementation of the Verification Environment and the Debug Tools"* (Supervisor: Mr. Ami Marelli)

Additional Research:

- *"Physical Design of 12-bit Two's Complement Adder"* (Supervisors: Prof. Yosi Shacham, Mr. Avi Efrati)
- *"Logic Design of full simplified DLX using FPGA"* (Supervisors: Mrs. Liron David, Mr. Marko Markov)

Israel Arts and Science Academy (IASA); Jerusalem, Israel   **Sep 2007 - Jun 2010**

High School Major in Physics, Computer Science and Chemistry, *cum laude*
Research Work:

- *"Kiosk Management: A Thesis in Systems Design and Programming with Web Services"* (Supervisor: Mrs. Inessa Bolotin)

ACADEMIC & PROFESSIONAL EXPERIENCE

Information Sciences Institute; Marina del Rey, CA, USA   **Aug 2018 - Present**
Research Assistant

- Studying Data Extraction/Transformation, Artificial Intelligence and Machine Learning techniques to solve complex information integration problems

Apple; Herzliya, Israel   **Jan 2018 - Jun 2018**
Embedded Firmware Engineer

- Designed, developed and implemented complex SW modules for Apple products

Mellanox Technologies; Tel Aviv, Israel   **2011 - 2017**
Senior Firmware Engineer & Team Leader, *Switch Silicon Core Department* **Apr 2017 - Jun 2017**

- 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 concepts and architectures consisting of static and dynamic analysis Conduct 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, *Switch Silicon Core Department*   **May 2015 - Mar 2017**

- Managed team of 3 engineers Contributed to end-to-end development and defined version-release procedures for the companys 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
- 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

INTERNSHIPS

Research Science Institute; Cambridge, MA, USA   **2009**
Research Intern (Computer-Science)

- Conducted on-campus course work in scientific theory and off-campus work in scientific research over 6 weeks. The program is under sponsorship of the Center for Excellence in Education and hosted by MIT
- 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).

AWARDS AND
SCHOLARSHIPS

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 2016 VSF Interoperability Event; The Woodlands, TX, USA   **2016**
Video Service Forum annual video broadcast networking interoperability event
- Acted as Mellanox representative and took part in real-time debugs
- 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**
Haifa Verification Conference hosted in IBM Research & Development Labs

The 26th IBTA InfiniBand and RoCE Plugfest; Durham, NH, USA   **2014**
Infiniband Trade Association event to measure compliance of vendors with the IBTA specifications
- Acted as Mellanox representative and took part in real-time debugs
- Performed interoperability testing of Infiniband and RDMA over Converged Ethernet
- Collaborated with various vendors to improve testing plan design

VOLUNTEER
ACTIVITIES

"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 cocreated 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 for physically challenged children ages 8-10
- Created educational workshop programs for pupils

LANGUAGES   English • Arabic • Hebrew • Russian

TECHNICAL SKILLS
- C, C++, C#, Python, MATLAB, VHDL, Cadence PSpice and Assura (Virtuoso)
- Unix shell, Bash and Perl scripting
- Ruby on Rails, HTML, CSS, JS and SQL
- 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   Combined Martial Arts • Graphic Design • Soccer • Music Production