1535 Gray Fox Trail
Charlottesville, VA 22901

Nayiri Krzysztofowicz

Email: nayiri@virginia.edu
Phone: (434) 227-2828

EDUCATION

University of Virginia — **Charlottesville, VA**
Candidate for B.S. in Computer Engineering and Mathematics — May 2020 (expected)
Honors: James E. Miller Award *(top 2 students of UVA ECE department),* Tau Beta Pi, — GPA: 3.97/4.0
Rodman Scholar *(UVA engineering honors program)*, Eta Kappa Nu, Intermediate Honors, Dean's List
Activities: Engineering Student Council *(3rd Year Rep, Health & Wellness Director, 1st Year Rep)*, Tau Beta Pi *(Treasurer)*, The Spectra – STEM undergrad research journal *(Publicity Chair)*, Outdoors Club, Armenian Student Association

SKILLS

EE: FPGA, Verilog, VHDL, Cadence Virtuoso, LabVIEW, MSP430, NI Ultiboard
Courses: Self-Powered IoT Systems, Computer Architecture, VLSI Design, Embedded Systems (I & II), Computer Networks, Digital Signal Processing, Digital Image Processing
CS: C, C++, x86 Assembly, Bash, MATLAB, Python, Visual Basic, Git
Courses: Operating Systems, Algorithms, Data Structures, Software Engineering, Discrete Math
Math Courses: Numerical Methods, Basic Real Analysis, Probability, Linear Algebra, Ordinary Differential Equations
Languages: English, Russian, French (fluent in all)

EXPERIENCE

Robust Low Power VLSI Lab, University of Virginia — **Charlottesville, VA**
Undergraduate Researcher — Dec 2016 - present
- Developing a feedback loop from temperature sensor to clock that interpolates temperature data and serially outputs tuning bits to a clock, to develop a temperature-stable on-chip clock.
  Skills: FPGA, Verilog, SPI, PCB design
- Used PyCell and the Berkeley Analog Generator (BAG) to asses feasibility of auto-generating standard cell layouts with custom parameters.

HP, Inc — **Corvallis, OR**
Silicon Design Intern — May - Aug 2019
- Worked on circuit design team for HP print; team was responsible for all thermal inkjet printing circuits.
- Created 48 transistor layouts for a minimum-area standard cell library (simple logic cells, latches, and flip-flops); reduced standard cells by an average 68% (ranged from 45-80%).
  Skills: layout, schematic simulation, DRC, LVS, PEX, auto-characterization of library, Bash

Writing Systems & Testbed Intern — May - Aug 2018
- Optimized user interface of an HP vision system written in Python using PyQt5 framework.
- Wrote script (1000+ lines) in Visual Basic to execute printer commands from a user dialog-box during testing.
- Managed shipment and setup of 40 prototype printers to test new HP ink cartridges.

NASA Langley Research Center — **Hampton, VA**
Cost Team Intern — May - Aug 2017
- Gathered data on >70 NASA missions to develop parametric cost model for the Science/Technology of missions; used NASA cost database to extract data and MATLAB to run analyses (regressions, machine learning algorithms).

ECE Department, University of Virginia — **Charlottesville, VA**
Teaching Assistant — 2017 - 2019
- Aided instruction of ECE 2630 (Circuits), ECE 2660 (Electronics) and ECE 4332/6332 (VLSI Design).
- Held weekly office hours, graded homework and lab assignments.

RELEVANT PROJECTS

Self-Powered Fleet Tracker: (in progress) 5-member capstone team designing system with 2 solar-powered roaming nodes that transmit encrypted GPS data using LoRa to a central node for decryption and display on a laptop.

Self-Powered Occupancy-Detection: (in progress) Measuring ambient light and thermal energy gradients in rooms and benchmarking system load components to design a system to detect room occupancy and display results remotely.

Multi-Threaded Computer Game: Implemented a real-time operating system (RTOS) on a TM4C123 microcontroller to create a multi-threaded game on a plug-in module. Game included randomly-generated threads that drew moving bitmaps on an LCD screen, a cursor controlled via joystick and pushbutton, and music playing from a microphone. Project was voted best in class.

RISC-V Processor: Implemented 5-stage pipelined RISC-V processor in VHDL capable of executing 38 different instructions.

Bacteria-Counting: Wrote program to count *Shewanella* bacteria in confocal microscopy images using different binary thresholds and image differencing. Project determined best in class by professor.