Roee Shahmoon
Computer Engineering

Contact

ADDRESS
Israel, Tel Aviv
Israel, Be'er Sheva

PHONE
052 - 5999 - 370

EMAIL
shahmoonroey@gmail.com

Links
Roee – Protfolio
Projects - Overiew
LinkedIn
Github

Skills

- Python
- C & C++
- Linux
- Assembly
- Verilog
- System Verilog
- VHDL
- HDL
- ModelSim
- Quartus
- Vivado
- DSP
- SQL
- Docker
- Git
- Github

Language

- Hebrew: Native
- English: Fluent
- French: Proficient

Occupation

→ 2024 Oct – Present

FPGA Engineer at ELTA Systems Ltd - Part Time Job

• Implement real-time signal processing algorithms on the AMD Xilinx Versal VCK190 board.

• Develop pipelined and vectorized C++ kernels for AI Engines to maximize throughput and minimize latency. Validate functionality using golden models in Python and MATLAB.

• Apply FPGA design methodologies to integrate AI Engines, DDR memory, ARM processors, and external interfaces into a cohesive system.

→ 2023 Aug – 2024 Sep

Backend Python Developer at Circles AI - Part Time Job

• Developed backend Python & Typescript applications as part of a startup team, Implemented version control using Git and actively contributed to GitHub repositories.

• Created and maintained Python classes for interacting with AWS databases, performing CRUD (Create, Read, Update, Delete) operations efficiently using MySQL.

• Participated in code reviews, mentoring junior developers, collaborated with frontend developers and product managers to deliver new features and enhancements.

Education

→ 2020 Oct – present

B.Sc. Computer Engineering, Ben Gurion University, GPA 80.

Teaching Assistant - BGU University:

• "Introduction to Systems Programming" - Conduct recitations on C programming language and Unix OS. Design course assignments and evaluate student's grades.

• "Introduction to Computers" - Guide hands on lab sessions focused on embedded systems using MSP430 microcontrollers. Helping students understand low level programming, assess students in real-time lab tests, given grades, and manage admission hours.

Projects:

• Hardware Accelerator for Matrix Multiplication - Developed in Verilog and SystemVerilog using systolic array architecture for parallel and pipelined computation, achieving high throughput and low latency.

• MIPS based MCU Architecture and Design - Built a single cycle MIPS processor, upgraded to pipelined architecture, and implemented a full microcontroller on Intel DE10 FPGA using Quartus and ModelSim.

• Light Sources & Objects Detection System - Developed a real-time detection system using Python on the PC side and C on Texas Instruments MSP430 microcontroller. Integrated Ultrasonic sensor, Servo motor, ADC12, UART, PWM, Timers, GPIO, LCD, and DMA for object localization and light source tracking.

→ 2011 - 2016

Alliance Tel Aviv High School

• Participation in a medical Physics program for outstanding students with visit Blinson Hospital.
• Engaged in school's volleyball team, instructor in scout movement. GPA 109.

Military Service

→ 2016 – 2019

Fighter and Commander in the 'Kfir' infantry brigade

• Graduated from the commander's course led a team of 15 soldiers trained them to be fighters.
• Complex operations in challenging environments, training commander certificate of excellence.