Roee Shahmoon

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My Portfolio

• Fourth year student for a bachelor's degree in computer engineering at Ben Gurion University.
• Expected completion degree in three semesters.
• Demonstrates strong aptitude for independent learning and collaborative teamwork.
• Knowledgeable in: Python, C, C++, SQL, VHDL, Verilog, Assembly, Linux, FPGA, TypeScript, Git.
• Seeking position: Backed Software, RT Embedded, Chip Design, Firmware, Hardware Verification.

Work Experience

2023 Aug - Present: Python Backend Developer at Circles AI

Engaged in a challenging internship at Circles AI, contributing to the development of cutting-edge solutions as a Python Backend Developer. Collaborated with a dynamic team to design, implement, and optimize backend systems, fostering innovation while gaining valuable industry experience.

Education

2020 - Present: Bachelor's degree B.Sc. in computer engineering, Ben Gurion University of the Negev.

• Structure of Digital Computers - Microprocessor Architecture MSP430: DMA, ADC, DAC, Timers, Watchdog, Interrupts, Cache, Memory Management, Virtual Memory, UART, I2C, SPI.

• CPU Architecture & Laboratory design utilizing VHDL and SOC with Intel DE10-standard. Proficient in MIPS and RISC-V processor architectures, specializing in designing pipelined thread processor cores. Deep understanding of deep learning principles and their application in processor design.

• Introduction to System Programming - Linux work environment, C/C++ programming, object oriented programming (OOP), experienced in developing complex projects.

• Data Structures & Graph Theory and Algorithms - sorting, binary search trees, linked lists, hash tables. applying mathematical models of graphs and networks to solve problems in communication. and computer fields. various algorithms such as BFS, Dijkstra, Bellman-Ford, Floyd Warshall, Kruskal, Prim, Ford-Fulkerson.

• Fundamentals of Computer Science - Python, Recursion, OOP, NumPy, CSV, Image processing.

Projects

• Light Sources & Objects Detector System – RT Embedded:
PC side at Python & MCU Side at C, working with Texas Instruments MSP430 using Servo Motor, ADC12, Ultrasonic sensor, UART, PWM, Timers, GPIO, LCD, DMA.

• MIPS based MCU Architecture and Design: Building Single Cycle Mips, upgrade to a processor with a Pipeline core become Microcontroller burn to FPGA intel DE-10 using Quartus and Modelsim.

2011 – 2016: **Alliance Tel Aviv High School**
• Participation in a medical physics project for outstanding students with a visit to Blinson Hospital.
• 5 units in Math, English, Physics and French.
• Engaged in school's volleyball team and active instructor in the scout movement.
• Outstanding graduate of the study cycle.

Military Service

2016 – 2019: **Fighter and commander in the 'Kfir' infantry brigade**
• Graduated from the commanders course in Bislah 906.
• Led a team of 15 soldiers as a commanding, overseeing operations, training, and ensuring mission success in challenging environments.
• Training commander certificate of excellence

Languages
Hebrew: native language, **English**: Fluent, **French**: Proficient.