

Sam Hachem

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A Graduate Student with Specializations in Software Engineering, Embedded Systems and Architecture

EDUCATION

UNIVERSITY OF ILLINOIS AT URBANA – CHAMPAIGN, GRAINGER COLLEGE OF ENGINEERING

Urbana – Champaign, IL

GPA: 3.7/4.0

- Bachelor of Science in Computer Science, BS Dec 2021
- Master's In Computer Science, MCS Dec 2022

EXPERIENCE

TERADYNE

Deer Park, IL

Software/Systems Engineering Intern

May 2022 – Aug 2022

- Low-level system design for semiconductor testing software with instruments such as UPD64, APU32, and SPU8112
- Completely redesigned and enhanced functionalities for sequencing verifier as well as the graphical user interface
- Investigated different development streams to analyze code performance and benchmark metrics

S&C ELECTRIC COMPANY

Chicago, IL

Software Engineering Intern

Jun 2021 – Aug 2021

- Integrated the technologies of Roambee into S&C systems for asset management and tracking
- Developed new technologies and techniques for the Fabrication and Production lines
- Developed an app for COVID-19 check-in process

RESEARCH

Impact of Dynamic Voltage and Frequency Scaling (DVFS) on SoCs

Urbana – Champaign, IL

University of Illinois at Urbana-Champaign

Mar 2022 – May 2022

My team and I explored the impact of system unaware DVFS techniques on a mobile Samsung Exynos 5422 SoC under three benchmark suites: Chai, Rodinia, and Antutu. We then analyzed performance trends across the suites to identify a set of consistent operating points that optimally balance power and performance across the system.

PROJECTS

IoT PICAR, SMART CAR

Urbana – Champaign, IL

Embedded Systems Engineer

Aug 2021 – Dec 2021

- Integrated different sensors and systems such as 4WD Hat and ultrasonic sensor into a raspberry Pi through GPIO
- Developed obstacle avoidance and detection code for smart navigation and self-driving using Tensorflow libraries
- Developed a Web App using Node.js for wireless navigation and communication with the Picar

CONDOR FOR THE COMMON MAN INVESTMENT APP

Urbana – Champaign, IL

Software Developer

Jan 2021 – May 2021

- Primarily developed a python library to leverage the TraderAPI resources for stock and option data gathering
- Developed a robust backend system using Django to serve specific, and at large data, about stock and option requests
- Built a sophisticated mechanism to make option calls based on the condor model

SKILLS

Software: C, C++, Python, Java | HPC Frameworks: CUDA, MPI | Full Stack: Django, React/Native, MySQL, MongoDB, Neo4j

Hardware: Verilog HDL, FPGA Development, RTL and Logic Synthesis, PS/PL Communication and Co-Design

Development Boards and Systems: ODROID-XU4 with Samsung Exynos5422 SoC, Pynq Board with Xilinx Zynq-7000 SoC

Software Platforms: Xilinx Vivado, Google Firebase, JetBrains CLion and IntelliJ IDEA, Apple Xcode

Language: English, Arabic, French (Fully trilingual)