ABDU MOHAMDY

Software Engineer

Enthusiastic problem solver with a love for Research and Hacking, and a demonstrated obsessive passion for Technology.

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EDUCATION

B.S. Computer Science - Systems Track

QuestBridge Scholar.

09/2018 - 06/2022

M.S. Computer Science - Computer & Network Security Specialization

Coterminal Program.

01/2022 - 06/2023

Stanford University

Relevant Coursework

- Advanced Operating Systems.
- Parallel Computing.
- Digital System Architecture.
- Advanced Computer & Network Security.
- Computer Networking.
- Graph Theory.
- Advanced Cryptography.
- Distributed Systems.
- Applied Number Theory and Field Theory.

WORK EXPERIENCE

Software Engineer (Codepoint Fellow)

Sutter Hill Ventures: Working with *EdgeGuardian* (Lacework) & *Sigma Computing* (08/2023 - 04/2024) **Palo Alto, CA.**

- Worked on building an Android client and improving the in-cloud agent to securely connect and proxy traffic to SASE network.
- Designed service to securely crawl and migrate interlaced customer data (RDBMS and Object Storage) to different clouds.
- Improved scalability of in-house deployment service using Kubernetes and Terraform.

Software Engineer Intern

Meta (06/2022 - 09/2022) **Menlo Park, CA.**

- Worked with the WAN Controller team to develop a new tool to measure traffic loss across Meta's Express Backbone network that connects their Data Centers.
- Proposed and developed an extension to the project that uses multiple versions of Next Hop Groups in Arista's LSP Agents for better accuracy until the feature's release.
- Built tests to simulate the versions feature of Next Hop Groups until the its release and induce traffic loss by both overloading physical links as well as selectively turning off forwarding interfaces to test the tool.

Software Engineer Intern

Google (06/2021 - 09/2021) **Mountain View, CA.**

- Worked with the gSSD team to create a fuzzing tool to test Google-designed NVMe SSD flash drives used in GCloud.
- Researched, and identified the best technical approaches and technology to base the tool off of.

Software Engineer Intern

Nvidia (03/2021 - 06/2021) **Santa Clara, CA.**

- Worked with the Neural graphics team on low-level drivers to support Nvidia's proprietary ML upscaling technology, DLSS.
- Worked with multiple teams to quickly design, prototype, implement, and iterate on a tool to compare video quality.

PROJECTS

Osiris IoT Hub (09/2023 - present)
IoT Service running on a Pi/4 to control multiple MCUs and SBCs that I use for personal projects including a self-watering plant pot, E-Ink picture frame, coffee machine and Led matrix. It exposes a frontend to control and monitor the devices.

Ruban (06/2022 - 03/2023)
Mutually distrustful turn-based P2P transaction system that builds on 2PC protocol to let nodes commit and challenge actions with a novel majority-based challenge resolution mechanism. I'm using it for my Yu-Gi-Oh dueling disk project.

TockOS (03/2022 - 06/2022)
Added TockOS [tockos.org] support for the Teensy 4.0 Board including implementing peripherals such as SPI and Watchdog.

MIPS Processor *[Class Project] (04/2021 - 05/2021)*
Implemented a 5-stage pipelined processor with most MIPS instructions set, hazard detection, forwarding, and stall control.

PintOS Operating System *[Class Project] (03/2020 - 06/2020)*
Implemented advanced parts of the pintOS Operating System including Processes, Threads, Virtual Memory, and File System.

C++ / C **Rust** **Go** **Python** **SQL** **Docker** **Kubernetes** **Systems Design** **Embedded Development** **Security & Cryptography** **Networking** **Web Applications** **Teamwork** **Communication** **English**: Native **Arabic**: Native **German**: Working Proficiency

INVOLVEMENT

Teaching Assistant @ Stanford Computer Science Department for Computer & Network Security & Senior Projects classes

Chai Chat co-Cordinater @ The Markaz Community Center.

Science Presenter @ The Franklin Institute.