

ZAINAB AAMIR

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EDUCATION

Stony Brook University, New York

August 2021 - Present

PhD in Computer Science

Graduate Courses : Operating Systems, Compiler Design, Data Science, Fundamentals of Computer Networks,

Overall GPA: 3.7

Lahore University of Management Sciences, Pakistan

August 2017 - May 2021

BSc (Honours) in Computer Science

Overall GPA: 3.5

EXPERIENCE

COMPAS Lab, Stony Brook University

August 2021 - Present

Research Assistant

Brookhaven, New York

- Working under Professor Dongyoon Lee, under the broad area of software and system security and programming languages
- Researching regular expression denial of service(ReDOS) security vulnerability and redesigning regular expressions engines

Grey Matter Global Consultancy

January 2020 - May 2020

Application Developer

Pakistan

- Developing a web application for automated college counselling using React JS
- Designing the interface for the application and based on the user, hosted a real-time database using Firebase

PROJECTS

Linux Stackable File System

February 2022 - May 2022

- Modified the linux kernel source code to implement a stackable file system in order to support recycling bin functionalities in Linux - delete, recover, delete permanently
- Multi-threaded operations to allow for concurrent use by multiple users with different permissions

Web Page Rendering Enhancement

August 2021 - December 2021

- Implemented a rendering engine to enhance a webpage for larger screen sizes
- Fed individual extracted DOM attributes of a webpage to Unity in order to scale them up proportionally for viewing on a 3x2 monitor setup (5120 x 1440 - 48")

Encrypted Smartphone Network Traffic Analysis

February 2021 - May 2021

- Implemented various deep learning techniques to analyze side-channel data of smartphone network traffic
- Extracted fingerprints of smartphone applications from the network traffic were fed to the deep learning model to identify the application

TECHNICAL STRENGTHS

Programming Languages	Python, Javascript, Java, C++, C, C#
Databases	MySQL, PostgreSQL, Microsoft SQL
Systems	Linux, Windows

TEACHING EXPERIENCE

Teaching Assistant-Fundamentals of Computer Networks (CSE 534) August 2022 - Present
Taught by Professor Aruna Balasubramanian *Stony Brook, New York*

Computer Science and Informatics Summer Research Experience May 2022 - August 2022
Mentor *Stony Brook, New York*

- Mentored two high school students for three months on conducting research on regular expressions extracted from the SNORT database, studying their characteristics and potential ReDOS vulnerabilities

Teaching Assistant - Systems Fundamentals(CSE 220) January 2022 - June 2022
Taught by Professor Joydeep Mitra *Stony Brook, New York*

Teaching Assistant - Databases(CS 340) August 2020 - December 2020
Taught by Professor Naveed Arshad *Lahore, Pakistan*