# 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, Machine Learning
Overall GPA: 3.7

**Lahore University of Management Sciences, Pakistan**            *August 2017 - May 2021*
BSc (Honours) in Computer Science
Overall GPA: 3.5

## EXPERIENCE

**Stony Brook University**                                                        August 2021 - Present
*Research Assistant*                                                               *Stony Brook, New York*

· Working under Professor Dongyoon Lee, under the broad area of software and system security
· Researching Regular Expression Denial of Service (ReDoS) attack and possible prevention meth

**Grey Matter Global Consultancy**                                          January 2020 - May 2020
*Application Developer*                                                                      *Pakistan*

· Designing and 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

## PUBLICATIONS

Hassan, **Aamir**, Lee, Davis, and Servant. *Improving Developers' Understanding of Regex Denial of Service Tools through Anti-Patterns and Fix Strategies.* Proceedings of the 44th IEEE Symposium on Security and Privacy **(IEEE S&P'23)**

## 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
· 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 deep learning techniques to analyze side-channel data of smartphone network traffic
· Extracted fingerprints of samrtphone applications to train models to identify an application

## TECHNICAL STRENGTHS

| | |
|---|---|
| **Programming Languages** | Python, C, Java, C#, Javascript |
| **Databases** | MySQL, Microsoft SQL |
| **Operating Systems** | Linux,Windows |
| **General** | Microsoft Office, LaTeX |

## AWARDS

**ACM CCS Student Conference Grant** $1100

**Computing Research Association Grad Cohort for Women 2023** Fully Funded

## TEACHING EXPERIENCE

**Fundamentals of Computer Networks (CSE 534)** August 2022 - December 2022
*Teaching Assistant* *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

**Systems Fundamentals(CSE 220)** January 2022 - June 2022
*Teaching Assistant* *Stony Brook,New York*

**Databases (CS 340)** August 2020 - December 2020
*Teaching Assistant* *Lahore, Pakistan*

## LEADERSHIP AND SERVICE

President of Graduate Women in Science and Engineering at Stony Brook University

Member of the Artifact Evaluation Committee for the 24th ACM International Conference on Languages, Compilers, and Tools for Embedded Systems (LCTES 2023)

Mentor at the Computer Science and Informatics Summer Research Experience at Stony Brook University