IDR-400
3720 Spectrum Blvd,
Tampa, FL 33612

MD SADMAN SAKIB

Cell: +1(646)-338-2765
Email: mdsadman@usf.edu
Personal Website
LinkedIn Profile

EDUCATION

PhD in Computer Science and Engineering — **August, 2019 - Present**
University of South Florida — CGPA: 4.00/4.00

B.Sc. in Computer Science and Engineering — **Graduation: September, 2017**
Bangladesh University of Engineering and Technology — CGPA: 3.21/4.00
(Last 40 credits: 3.72/4.00)

Research Interest

- Computer Vision
- Human Computer Interaction
- Image Processing

DISSERTATION

- BSc: *"Optimizing Link Protection Cost for Preserving Server Connectivity in a Network",* September 2017, CSE, BUET.
  Supervisor: Dr. Md. Saidur Rahman

  Summary: Designing a reliable network is very important for Internet Service Providers(ISPs). Therefore, ISPs must offer connectivity to users even if link failure occurs. Researchers have proved that this problem of minimizing number of protected links is NP-hard. However, by changing problem instance a bit, researches have given some polynomial algorithms for unweighted network. Based on that, we developed two approximation algorithms for weighted network.

Invited Talk

- Slide
  My adviser Dr. Attila invited me to give a talk on Oblivious RAM to the students of his class at University of South Florida.

EXPERIENCE

Graduate Research Assistant
University of South Florida — **Spring 2020 – Present**
Research Field: Privacy preserving technologies, specially Oblivious Random Access Machine (ORAM)
I conducted surveys on the existing searchable encryption schemes, ORAM schemes and implemented some of them.
Survey report: ORAM, Searchable Encryption and Differential Privacy
Implementation: Path ORAM, MACAO
External reviewer: WiSec - ACM Conference on Security and Privacy in Wireless and Mobile Networks, 2020

Graduate Teaching Assistant
University of South Florida — **Spring 2020**

Course: Privacy Preserving Infrastructure
I prepared and graded assignments, maintained office hours. I was also a guest lecturer for two classes. I taught how to use some cryptographic tools. Here is a tutorial I created for this course.

Graduate Teaching Assistant
University of South Florida **Fall 2019**
Course: Operating System
I prepared and graded assignments, maintained office hours. I also took a class to teach the basic of shell scripting.

Software Engineer **September 2017 – July 2019**
https://www.ipay.com.bd/
I worked in a data analysis project to measure user connectivity with the system using supervised learning. I also developed many features related to user authentication, access control, notification, offer, event tracking, system design, optimization, data migration and admin management.

TEST SCORES

- **GRE:** Quantitative: 164, Verbal: 149, Analytical Writing: 3 **Total: 313**
- **TOEFL:** Reading: 26, Writing: 24, Listening: 28, Speaking: 23 **Total: 101**

TECHNICAL SKILLS

- **Programming Language:** Python, C, C++, Java, JavaScript, MATLAB
- **Database:** MySQL, PostgreSQL, Cassandra, Neo4j, Redis
- **Scripting:** Linux Shell Scripting, LaTeX
- **Framework:** Spring Boot, Django, Vue.js
- **Deployment:** AWS EC2, Docker, Jenkins
- **Scheduler:** Cron, Apache Airflow
- **Logging:** Elasticsearch, Logstash, Kibana
- **Others:** Apache Kafka, RabbitMQ

Certifications

- **Machine Learning by Stanford University (Coursera)**
  Instructor: Andrew Ng
- **Cryptography I by Stanford University (Coursera)**
  Instructor: Dan Boneh
- **MATLAB Onramp**
  MathWorks
  Credential Link
- **Responsible Conduct of Research for Engineers**
  CITI Program
  Credential Link

Notable Projects

In iPay Systems Limited

- **Image based Signup**
  Team Size: 3
  We designed a very efficient Signup process where the app will take a selfie of the user and the user will scan his national ID card. The app will verify the user by matching the selfie with the photo in the national ID card. If it matches, the app will extract the name, date of birth, address, ID number from the ID photo and automatically completes the signup process for the user.

- **Recommender System**
  Team Size: 4
  Our goal was to calculate engagement score for each user based on their behavior in our system. For example, the users who are frequently using our system are more eligible for an offer. Another example is, if a person is in a close network with some of our regular customers, it is highly likely that the person will also like our product. So, we target those persons to advertise our product.

- **Notification Sender**
  Team Size: 2
  This is a tool used for sending emails, SMS and notification to a group of users. We used this tool for sending promotional offers, confirmation SMS, OTP and other purposes.

- **Data Visualizer**
  Team Size: 2
  We built this tool to monitor what is going on in the system. Basically, it was dashboard with various graphs, charts and lists. For example, what percentage of users are female and made transactions over 5000$. We collected the data using Logstash and visualized it using Elasticsearch and Kibana.

All the above features are integrated here.

In undergraduate years:

- **Two Player Snake Game**
  Team Size: 5
  In this project we made a two player snake game. we used dot matrix display as the board and controlled the two snakes with push button. We also designed a digital scorecard. Live demo here

- **Tin Guti Game**
  Team Size: 2
  "Tin Guti" is a Bengali term which can be translated as "Three pieces". In this game, there are two players each with three pieces. The player who first creates a straight line with his three pieces is the winner. We used LED dot matrix to create the board and used buttons to move the cursor. The program was installed in ATmega32 microcontroller chip. Live demo here

- **Hospital Management System**
  Team Size: 5
  The goal of this project was to get familiar with all the major steps of software development. From taking appointment to generating prescription, almost all the process was manual in our university medical center. We wanted to make it digital. So, we interviewed the medical officers of the medical center and analyzed the requirement with them. Then, we presented all the components of our design using sequence diagram, data flow diagram and use case diagram.

- **Online Food Ordering**
  Team Size: 2
  The features of this project are similar to the typical online food delivery system. We developed this as our database project.

- **Bows and Arrows**

Team Size: 2
In this game, the user has to shoot the balloons with bows and arrows. Here is the cover photo of the game.

- **Reversi**
  Team Size: 1
  Reversi, also called "Othello", is a game where two players plays with each other and try to capture pieces from the opponent. I did this as a part of our Artificial Intelligence project. One of the player is the computer that uses my AI program to play.

ACHIEVEMENTS

- Passed PhD qualification exam, 2020
- Got Fully Funded PhD Admission from 7 universities in USA, 2019
- Selected as one of the top three candidates in the campus recruitment program of iPay Systems Limited which is one of the best software companies of Bangladesh.
- Ranked in the **top 2%** in the entrance exam of Bangladesh University of Engineering and Technology, 2012 (Considered as the best engineering university of Bangladesh).
- Champion in the general knowledge quiz competition in a national television program "Timeline 71" in 2012. The program was based on the Liberation War of Bangladesh. Here is a photo from that program.
- Board Merit Scholarship
  Secondary School Certificate Exam, 2010
  Higher Secondary School Certificate Exam, 2012
- Champion, Divisional Math Olympiad
  Junior Category, 2008
- Runner-up, Divisional Science Olympiad
  Senior Category, 2011

REFERENCE

- **Dr. Attila Altay Yavuz**
  Assistant Professor
  Department of Computer Science and Engineering,
  Univeristy of South Florida
  Web: https://www.csee.usf.edu/~attilaayavuz/