S M Farhanur Rahman

469.438.3374 | farhanr8@hotmail.com

Euless, Texas | https://farhanr8.github.io

Summary Statement

Master's student looking for research opportunities for developing or testing software. My education has given me an understanding of both high level software and low level software. I am motivated and eager to learn to overcome my shortcomings. I am passionate about helping others and intend to write software for the benefit of society.

Education

University of Texas at Dallas

August 2019 - May 2021, Richardson-TX

Master of Science in Computer Science
Overall GPA: 4.00/4.00
Track: Systems

University of Texas at Austin

July 2015 - May 2019, Austin-TX

Bachelor of Science in Electrical Engineering
Overall GPA: 3.40/4.00
Primary Track: Software Engineering
Secondary Track: Computer Architecture & Embedded Systems

Jack E. Singley Academy

August 2011 - June 2015, Irving-TX

High School Diploma
Overall GPA: 3.98/4.00
Focus: Engineering

Research Interests

- Software Development
- Operating Systems
- Autonomous Systems
- Artificial Intelligence

Research Experience

Undergraduate Research Assistant

Sept 2017 - May 2018, Austin-TX

Used C++ and python to assist a Simultaneous Localization and Mapping (SLAM) program written by a UT professor on a Linux system. It gave me experience with the linux terminal and the process of downloading linux packages. My role in the programming portion mainly involved debugging and organizing the written code.

Teaching Experience

CS Outreach Instructor

Jan 2020 - Mar 2020, Richardson-TX

Through the UTD Computer Science department's outreach program, I became an instructor to teach elementary students how to use an MIT animation tool, called Scratch. This experience has taught me how to be patient when teaching and also how to keep the sessions interesting so the topics do not become boring.

Undergraduate Teaching Assistant

Jan 2016 - Dec 2016, Austin-TX

My second year of undergrad I became a TA for an Undergraduate Studies course that freshmen were required to take. Through this opportunity, I gained leadership skills with the help of a tailored seminar, as well as, mentoring incoming college students. The course looked at societal issues involving race in the US, and I mediated discussions in the classroom based on the lectures.

Professional Experience

Applied Research Labs / Student Technician

May 2018 - July 2019, Austin-TX

I assisted Naval Research using Python and Matlab on a Linux-based system. Specifically, with python I completed a demo for data transmission using Confluent Kafka and also used postgreSQL to store the data. With Matlab, I did several projects that included data labeling and Kernel Density Estimation.

Ruffalo Noel Levitz / Student Caller

Aug 2015 - May 2016, Austin-TX

Learned how to build rapport and communicate with parents and alumni of UT Austin. The communication was through phone calls and I successfully raised over $10,000 for the university in the time I worked there.

Academic Experience

Contact List Application

Spring 2020, University of Texas at Dallas

Wrote a script to store contact information from a CSV file into a MySQL database and developed a GUI using Java Swing library that allows a client to interact with the database.

Litmus-RT Video Application

Fall 2019, University of Texas at Dallas

Developed a real-time video processing app in a modified linux kernel using FFMPEG and SDL libraries.

Mininet Application

Fall 2019, University of Texas at Dallas

Developed a streaming application in a software defined network environment. The application consisted of a server, a renderer, and a client. I implemented a protocol in python where a client can request a server to stream a text file, which gets displayed on the renderer.

Embedded Systems Projects

Various semesters, University of Texas at Austin

Weather Station: Implemented temperature sensor using I2C protocol on a custom PCB. Done in C using TI TM4C LaunchPAD. (Spring 2019)

TI-RSLK: Developed Simulink program for a robotics curriculum using C2000 launchpad [Spring 2019]

Car Game: Designed and implemented a car game on the TI TM4C launchPAD in C. The game was based on pole position, where one can accelerate, and move the car left and right to avoid obstacles, until the finished line was reached. (Spring 2016)

Android Projects

Various semesters, University of Texas at Austin

Apartmate: Created an app for roommates in software design class with a team. The app will keep track of chores, groceries and calendar between the roommates. (Spring 2018)

MapApp: Used Google Maps API to show maps/street view of an address. (Spring 2018)

WeatherApp: Used Dark Sky API to collect weather information and displayed it on the app. (Fall 2017)

Data Science Final Project

Fall 2018, University of Texas at Austin

Built a web scraper to extract song albums and artists from wiki. Used Spotify and Genius API to retrieve song lyrics and album art. Attempted to train a dataset using GAN models to generate artwork when some lyrics were fed into the model.

Digital Logic Design Final

Spring 2017, University of Texas at Austin

Encoded the Basys FPGA board with VHDL to act as a calculator. Showed values on the 7-seg display.

Skills

Computer-skills

- Languages: Proficient in Java, C, Python.
  Familiar with Matlab, C++, Assembly, VHDL, UML
- Libraries: OpenCV, Tensorflow, JUnit, FFMPEG/SDL
- Web: HTML, CSS, JS
- Databases: SQL, JDBC
- OS: Windows, MacOS, Ubuntu
- Applications: Labview/Simulink, Android Studio

Soft-skills

- Team management
- Event management
- Excel budgeting
- Sales representative

Presentations

UT Senior Design Capstone

May 2019, Austin-TX

Our senior design team presented a demo of our senior project at the ECE Spring 2019 Showcase. A year long research and development proved fruitful in producing a Simulink software for Texas Instrument's Robotics Curriculum.

AP Cambridge Capstone Research Program

April 2015, Irving-TX

I presented a research paper on Social Engineering as per the diploma requirement for the AP Cambridge program.

Southwest Popular/American Culture Association

Feb 2015, Albuquerque-NM

I presented a research paper contrasting Hollywood filmography to that of Bollywood. I was able to attend the conference as part of my High School Cinema Club.

Activities

- Participant, Google DevFest
- Grader, Engineer Your World
- Participant, Leadershape Institute
- Volunteer: Pi Sigma Pi Organization, Austin City Limits, Explore UT, SXSW, Texas Tribune, Longhorn Halloween, Habitat for Humanity

Honors and Awards

- Certificate of Completion, UTD IEEE Software Testing Contest
- UT Austin Bridge Scholar
- 1st place, Local Unrated Chess Competition