

Majok Francis Ring

mring3@ucmerced.edu

<https://www.linkedin.com/in/majok-ring-4b1936110/>

www.majokring.com

Mobile: (858) 925-3768

EDUCATION

University of California, Merced

May 2018

B.S Computer Science and Engineering

GPA: 3.06

Relevant Courses: *Data Structures – Computer Algorithms – Database Systems – Computer Architecture – Object Oriented Programming – Discrete Math – Computer Networks – Network Security*

TECHNICAL SKILLS

- Programming Languages– **Java, C++, C, Python, JavaScript, HTML, CSS, SQL, OpenGL, Android Development**
- Other skills – Git, Android Studio, Photoshop, Illustrator, After Effects

EXPERIENCE

JPL Software Development Technical Intern, MESA Lab – (Qt, C++, JavaScript)

January 2018 – May 2018

- Worked with the UC Merced Mechatronics, Embedded Systems and Automation (MESA) Lab in developing a UI to control a methane sniffing drone to create/plot a map of key areas of interest and record and analyze flight data.
- Presented my developments on the updated UI and software to panel of industry executives, faculty researchers, and students. Explained purpose, potential outcomes, and future plans; Drone swarming

MACES Student Web Developer, UC Merced – (JavaScript, HTML, CSS)

December 2017 – May 2018

- Optimized site navigation by categorizing content, debugging code and redesigning web pages
- Upgraded site by updating content and graphics; monitoring, identifying, and evaluating improvement options; Revised material for reports, web content, brochures and other publications

COMPUTER SCIENCE RELATED PROJECTS

TCP Congestion Control Visualizer - Web Application

December 2017 – January 2018

Personal Project – (JavaScript, HTML, CSS)

<http://www.majokring.com/TCP-Congestion-Control-Visualizer/>

- Engineered a graphical web application to simplify the analysis of AIMD/Slow Start TCP Congestion Control methods.
- Employed VARK Modalities (Visual, Aural, Read/write, and Kinesthetic sensory) to develop an interactive visual based learning tool for computer networking students to understand and numerically solve congestion control problems

TinyOS Link State Routing and TCP

September 2017 – November 2017

Computer Networks Projects – (nesC, TinyOS, Python, Embedded Programming)

- Used TinyOS, wrote and optimized code to implement addressing, flooding, and neighbor discovery
- Expanded platform for low power devices to communicate after building several protocols such as IP and TCP. Optimized send and receive functions to find the shortest path using Dijkstra's algorithm and Link State Routing.
- Created a multi-user chat application with custom modules to interface python and TinyOS.

Network Security – AES Implementation

October 2017 – November 2017

Network Security Project – (C++)

- Built personal implementation of 128-bit AES encryption for variable length string inputs. Able to compare state output after every add round key, Byte Substitution, Shift Rows, and Mix Columns stage.

Skateboarding Physics Simulator

January 2017 – May 2017

Computer Graphics Project – (C++, OpenGL, Visual Studio)

- Designed and developed a program in OpenGL engine to simulate and analyze skateboarding tricks in 3D with custom interlocking parts, simulated gravity, interpolated Bézier/Lagrange curves, and environment interaction.