

Jae Kim

<https://github.com/jaekim24> | (706) 392-3103 | Jaekim242@gmail.com | Columbus, GA

EDUCATION

Bachelor of Science, Computer Science
Columbus State University - Columbus, GA

Columbus, GA
Expected Graduation: December 2024

EXPERIENCE

Undergraduate Research Assistant | *Python, TCPDump, Azure Cloud*
Columbus State University

June - August 2023

- Co-author in a published paper: <https://www.mdpi.com/2079-9292/12/18/3855>
- Created a chaff perturbation simulation program in python to manipulate the TCP traffic to test if an intrusion detection algorithm is resistant to the changes.
- Using Azure Databricks, uploaded the packets as a text file that has been collected by using TCPDump to run some statistical analysis such as getting the standard deviations of the run trip time, removing outliers with the z-score, and filtering the packets to determine how effective the intrusion detection algorithm is.

PROJECTS

Predicting Oil Prices with Machine Learning Models | *Python, XGboost, Matplotlib, Pandas, Sklearn*

June 2023

- Achieved **91.12% accuracy** in predicting past oil prices with the input of the Macroeconomic factors dataset.
- After processing and cleaning the dataset such as handling missing data and outliers, achieving **95% data integrity rate**.
- Partnered with team members working in an **Agile** environment to develop and test multiple parsed datasets and used optimizations techniques to improve performance and reliability. Implemented the XGboost regression machine learning model in python.
- https://github.com/jaekim24/predicting_oil_prices_with_different_ML_models

Automated Lawn Mower | *C++, Arduino, Automation, I2C, USB*

May 2022

- Wrote a program to automate the lawn mower to maneuver around the lawn in C++.
- **Time reduction of 75%** on mowing the lawn.
- Implemented the Sabertooth Simplified Serial library to communicate to the electric motors on the lawn mower with an electric speed controller and an Arduino.
- Used a MPU 6050 sensor which can get the X, Y, and Z coordinates and the axis and used that data to navigate the lawn.
- Ran into many software issues I have never encountered and was able to troubleshoot them all.

Auto Class Opener | *Python, Selenium, Script, Shell*

August 2021

- Created a script using Selenium to automate routine tasks such as opening up zoom links at specific times for classes in python.
- **Reduced time spent** opening the links by **80%**.

WORK & LEADERSHIP

BestBuy - Columbus, GA

June 2021 - January 2022

Sales Associate: Part-Time 20 Hours / Week

- Helped customers locate merchandise and answer any questions in the Home Theater, Appliance, and Computer department.
- Resolve order issues that the customer has.

EastWest Martial Arts - Columbus, GA

August 2016 - December 2017

Instructor: Part-Time 15 Hours / Week

- Taught classes of students ranging from middle to high school students.
- Responsible for monitoring students during class and corrected form or technique when needed.

Programming Skills: Java, Python, C#, SQLite, and C++.

Others: Git, Fusion360, Selenium, Data science, Azure Databricks, Apache Spark, TCPDump, Azure, Unix, Arch Linux, and Cloud environment.

Interests: Ham Radio, Hardware, Cloud Environments, Distributed Systems, and Machine Learning.