MARK TAKATSUKA

COMPUTER SCIENCE

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Skills

RELEVANT COURSES

Intro To AI
Analysis of Algorithms
Graph Theory
Number Theory
Cryptography
Project Based Software Engineering
Parallel and Distributed Systems

PROGRAMMING LANGUAGES

Java
Python
Go
Vue JS
C / C++ / C#

SOFTWARE

Kubernetes
Spring
AWS
PostgreSQL
DynamoDB
Tensorflow

Awards

IBM Applied AI Professional Certificate
2020

RIT Deans List
2018 - 2020

1st Runner Up at Hack Upstate
2019

Education

Rochester Institute of Technology — Aug. 2018 to Current
Bachelors Computer Science 2022
Minor in Mathematics
GPA: 3.86

Employment

SecureCloudDB — Rochester, NY
Software Engineering Intern — May 2020 to Current

- Worked in an agile environment, designing and developing backend APIs for cloud asset discovery and live activity monitoring in AWS.
- Constructed automatic deployment of SecureCloudDB tools into client environments including software to perform data acquisition, and automatic remediations for security flaws.
- Implemented effective performance scaling in Kubernetes, and researched query scaling with big data storage on PostgreSQL and DynamoDB.

Projects

Go Fast Math Package — Sept. 2020 to Current

- Designed a Go package with utilities for efficient mathematical computation, tailored to cryptographic and machine learning applications.
- Implemented algorithms for finite field arithmetic, computations on elliptic curves, and efficient matrix manipulation.

Expression and Function Interpreter — Apr. 2020 to Current

- Developed a web application in Java and Vue JS to parse complex arithmetic expressions and functions.
- Implemented real time text interpretation and parsing, as well as support for asynchronous bulk computations.

Swarming Algorithm Visualization — Oct. 2019 to Dec. 2019

- Led back end development, using a threaded Python server and a MySQL database to manipulate simulated drones.
- Created and simulated efficient swarming algorithms to demonstrate emergent behavior.

HikeLine — Oct. 2018 to Nov. 2018

- Android app designed for hikers in remote parks to send emergency alerts to others in the surrounding area.
- Constructed app integration with the Google Maps API and Firebase for live location monitoring and tracking.

Activities

RIT AI Club · Member — Jan. 2020 to Current

- Conversed and learned about Artificial Intelligence, discussing theory, new developments, and implementations.
- Participated in member presentations, discussing their current research.