Akhil S. Kammila

akhilkammila@gatech.edu | (603)-930-1612 | US Citizen

Relevant Links: LinkedIn | GitHub | Personal Website
Programming Languages: Python, Java, JavaScript, C++, HTML, CSS
Technologies: React.js, Node.js, Flask, scikit-learn, Tensorflow, React Native, MATLAB, Mathematica, Git

EDUCATION

Georgia Institute of Technology   **Atlanta, GA**
Bachelor of Science in Computer Science, Concentrations in Intelligence and People   *May 2024*
Related Coursework: Data Structures and Algorithms, Object-Oriented Programming, Computing in Python, Statistics and Applications

EXPERIENCE

Massachusetts Institute of Technology   **Cambridge, MA**
PRIMES Research Intern | Paper Link | Presentation   *January 2021 – June 2022*
- Constructed a formal protocol for the Tor handshake, a cryptographic protocol with over 2 million daily users, with information from capturing Tor network traffic and analyzing source code
- Developed an upgraded Tor handshake protocol, with improved censorship resistance, latency, and packet size, by changing certificate authentication and message ordering
- Tech Stack: Python, C, Wireshark

PRIMES STEP Research Intern | Paper Link   *September 2018 – July 2020*
- Solved subcases of a mathematics optimization problem involving computational efficiency and the value verification of unknown coins
- Tech Stack: Python, Java, MATLAB, Mathematica

SolutionHealth   **Virtual**
Data Engineering Intern   *June 2021 – August 2021*
- Optimized investments into medical equipment and advertising by analyzing patient demographics, facility leakage, and contributors to patient outmigration
- Developed a MATLAB graphical user interface to display cardiovascular and oncology treatment trends for 40+ health facilities
- Tech Stack: Python, MATLAB

Robotics Team   **Concord, NH**
Captain   *August 2018 – May 2021*
- Programmed autonomous robot movement, camera vision processing, autonomous scoring mechanisms, and driver controls for three FRC robots
- Organized and led a 20+ member robotics team; hosted and organized FLL Jr. events for over 400 children in 30+ teams
- Tech Stack: Java, Onshape

PROJECTS

safedrive | Github Code | Tensorflow, Flask, React
- Built a telematics device to detect driver distractedness based on movements including eating, talking, and removing a hand from the wheel, using Raspberry Pi, artificial intelligence, and the State Farm driving distractions dataset
- Currently building a website for users to easily configure a Raspberry Pi device and view a data dashboard displaying their driver distractedness score, speed, braking, and more

ghost | Demo & Tutorial | Github Code | Website | React, Node.js, Socket.io, AWS Elastic Beanstalk
- Created the first implementation of the popular word game ghost – where players incrementally add letters to a dictionary word without saying the last letter
- Built live, scalable multiplayer functionality and three singleplayer bots using web sockets, Datamuse API, Elastic Beanstalk, and intelligent data filtering and processing

Smart Camera | Demo | Github Code | React Native, Expo
- Designed a mobile application which waits until all subjects smile before capturing a photo using facial recognition technology

ASL Learning Tool | Demo | Github Code | Website | Tensorflow, React
- Developed a website to translate webcam-inputted hand gestures to English or typed words to sign language in real-time, using a self-trained machine learning model and translation APIs

FaceBot | Python, RaspController
- Built a home security device using Raspberry Pi Zero, 3D printed parts, and OpenCV Facial Recognition software
- The device logged when unfamiliar faces entered a home, and displayed the information on a website dashboard

Personal Website | Github Code | Website | HTML, CSS, Javascript