

# Akhil S. Kammila

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## EDUCATION

### Georgia Institute of Technology

Bachelor of Science in Computer Science

Atlanta, GA

Expected Graduation, 2024

- Concentrations in Intelligence and Theory
- Relevant Coursework: Data Structures and Algorithms, Object-Oriented Programming, Computing in Python, Stats and Applications

## PROJECTS

**safedrive** | [GitHub Code](#) | Tensorflow, Flask, React, Firebase

- Used deep learning to create a distracted-driver detection algorithm based on movements including eating, talking, and removing a hand from the wheel
- Created a Raspberry Pi device with 3D-Printed casing that hooks onto a car's passenger-side handlebar
- The device captures a video feed of the driver and uploads frames to our Firebase database once connected to Wi-Fi
- Currently building a website for users to monitor their personal driver-distractedness data

**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 a functional singleplayer mode by calling DataMuse API to validate word existence
- Designed easy, medium, and hard singleplayer bots by filtering dictionary words by the parity of their lengths
- Built a multiplayer mode with private rooms by using web sockets to transmit user input in real time
- Deployed the backend to AWS Elastic Beanstalk for live and scalable multiplayer functionality

**Smart Camera** | [Demo](#) | [Github Code](#) | React Native, Expo

- Created a mobile app which eliminates wasted phone storage from bad group pictures
- The app uses facial recognition software to detect the number of faces in the camera's frame
- A picture is only taken once every subject smiles, looks at the camera, and opens their eyes

**ASL Learning Tool** | [Demo](#) | [GitHub Code](#) | [Website](#) | Tensorflow, React, Flask

- Used self-collected images to train a machine learning model which translates sign language letters into English
- Developed a website to receive users' webcam feeds and translate their sign-language gestures in real-time
- Called translation APIs to add a separate website feature where users can translate text from any language into sign-language

## EXPERIENCE

**PeerPop** | [Website Link](#)

Atlanta, GA

Web Development Intern

September 2022 – Current

- Revamping the entire website of an early-stage startup focused on data analytics in the entertainment industry
- In charge of improving the user login scheme, designing event displays for users, and creating data dashboards for event hosts
- Tech Stack: React, Node.js

**SolutionHealth**

Bedford, NH

Data Analyst Intern

June 2021 – August 2021

- Optimized Solution Health's investments into medical equipment and advertising by analyzing data on patient demographics, facility leakage, and contributors to patient outmigration
- Developed a MATLAB graphical user interface to display trends in cardiovascular and oncology claims for 40+ health facilities
- Tech Stack: Python, MATLAB, Excel

**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 the value verification of unknown coins
- Used Python and data visualization software to brute-force large amounts of test cases and detect trends
- Tech Stack: Python, Java, MATLAB, Mathematica

**Programming Languages:** Python, Java, JavaScript, C++, HTML, CSS

**Technologies:** React.js, Node.js, Flask, scikit-learn, TensorFlow, React Native, MATLAB, Mathematica, Git

**Honors:** Jae S. Lim Award in Mathematics, Valedictorian, Coca-Cola Scholarship Semifinalist, U.S. Presidential Scholar Semifinalist, 1590 SAT

**Activities/Leadership:** Startup Exchange @GT, Robotics Team (Mentor, Former Captain), Hackathons (1<sup>st</sup> SelfieHacks, 3<sup>rd</sup> Hackerland)