

## Education

**Georgia Institute of Technology**  
*B.S. Computer Science, 2022*

GPA: 3.8 Atlanta, GA  
*August 2019 - Present*

- Selected courses: Objects and Design, Computer Organization and Programming, Introduction to Artificial Intelligence, Introduction to Computer Vision, Honors Linear Algebra with Abstract Vector Spaces, Discrete Mathematics, Combinatorics, Statistics and Applications, Macroeconomics

## Selected Experience and Projects

The full list of projects I have worked on can be found on my GitHub: <https://www.github.com/2019aliu>

- **Software Developer Intern** Rockville, MD - remote  
*S&C Electric May 2020 - August 2020*
  - Build a web application to view and edit settings of electrical products for consumers nationwide
  - Design a proxy-microservice type application to allow for easier maintenance and construction
  - Construct UI with React.js and supporting proxy with GraphQL and Apollo for client-side operations
  - Implement, test, and document microservice to retrieve data from S&C Electric's devices, and a microservice to open channels for subscribing to the devices' data
  - Technologies used: Java, Javascript, GraphQL, Redis, Spring Boot, React.js, WebSocket and STOMP, Docker
- **Recycling Management Suite** Atlanta, GA - remote  
*Google Developer Student Club, Georgia Tech Chapter June 2020 - Present*
  - Create website to handle administration of Georgia Tech's Office for Solid Waste Management and Recycling
  - Connect the user interface to the existing Firestore database
  - Technologies used: Javascript/Typescript, Angular, Firebase - Firestore + Functions
- **Epiphany** Champaign, IL - remote  
*HackThis - HackIllinois 2020 August 7-15, 2020*
  - Lead the creation of a Web application that implements the Feynman technique into a web application
  - Created user flow diagram and wireframes (both low-fidelity and high-fidelity) to design the app
  - Implemented search functionality to intelligently search for topics to learn
  - Built some of the custom React components for the project and some of the UI screens (home, profile, create new topic, topic info)
  - Technologies used: Figma, Javascript, React.js, SCSS, Python, Flask, Elasticsearch, MongoDB (Atlas)
- **TAG** Atlanta, GA  
*Create-X: Idea to Prototype January 2020 - April 2020*
  - Create a tracking device that has better range than most commercially available tracking tags by utilizing Global Positioning System (GPS)/Bluetooth/Wifi technology
  - Uses GPS to determine vicinity of device within 200 feet and Bluetooth/Wifi/Ultrasound to identify exact location through visual and auditory cues
  - Technologies used: Android Studio, Java, XML, Google Nearby Messages API, Google Maps API
- **Software Developer Intern** Greenbelt, MD  
*Fluency Security Corporation June 2019 - August 2019*
  - Developed a web-based trouble ticketing system, FasterIncidentResponse, using MongoDB-Gin-Vue.js-Golang fullstack framework, and integrated it into existing log management software
  - Created developer's guide documentation with Postman, Markdown, and Web Developer tools
  - Unit tested log management software with Golang's unit testing framework
  - Technologies used: Golang (including Gin server), MongoDB, Bootstrap, Vue.js, Node-RED, Postman

## Research Experience

- **Move2Music** Atlanta, GA - remote  
*Parikh Lab* August 2020 - Present
  - Research uses of reinforcement learning techniques in generating music from video footage of dance
- **Migraine Research** Great Falls, VA  
*Neuroscience Research Lab* June 2018 - January 2019
  - **Title:** Exploration of Two-Dimensional Materials for Inhibition of the Calcitonin Gene-Related Peptide Pathway in Migraines
  - Employed high-performance CPU cluster and slurm management in collaboration with high school's computer systems lab
  - Continued using ABINIT, an open-source package for making predictions about molecular systems based on solving quantum physics equations.
  - Research proposal accepted by neuroscience research lab at high school, received guidance and \$2400 funding for project

## Skills

**Languages:** Java, Python, JavaScript/ES6

**Infrastructures and Frameworks:** Git, Node.js/V8, React.js, Bootstrap, WebSocket, MongoDB/MongoDB Atlas, Firebase, Keras, Tensorflow

**Software:** Terminal (Linux, Mac), Vim, Android Studio, Figma, Jupyter Notebook

## Non-academic Activities

- **Social Committee Member, Georgia Tech Swim Club** Atlanta, GA  
*Georgia Tech* August 2019 - Present
  - Organize and manage funds for social events for the swim club, such as weekly virtual trivia and other socially-distanced events
  - Practice, compete, socialize, and volunteer with the members and coaches of the swim club
  - Qualified for multiple events in the 2020 College Club Swimming National Championship (unfortunately cancelled)
- **Member, GT Investment Club** Atlanta, GA  
*Georgia Tech* January 2020 - Present
  - Studying in the mentorship program to understand accounting and investing fundamentals and strategies
- **Member, GT Pianoforte** Atlanta, GA  
*Georgia Tech* January 2020 - Present
  - Play piano at concerts and socialize with other members of the club