

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
 - Led the design of backend, implementation, testing, and documentation of an application to view and edit settings of all S&C products, will be used to monitor 10000s of devices
 - Redesigned and implemented backend microservices and proxy to retrieve data from S&C Electric's devices, resulting in 4x speed up and 99% reduction in the schema used to retrieve data
 - Collaborated with design team to redesign a user-friendly interface, and implemented the interface with newer technologies (React, Electron) to reduce code base size significantly
 - Technologies used: Java, Javascript, Redis, Spring Boot, WebSocket, STOMP, GraphQL, Apollo Server + Client, React.js, Electron.js
- **Product Manager and Team Lead** Online
Develop For Good September 2020 - Present
 - Managing a team of designers and developers to create a mobile application to aid distributing resources for the Yemen crisis
 - Maintain communication with client to understand the product's specifications
 - Technologies used: Figma, React Native
- **Epiphany** Champaign, IL - remote
HackThis - HackIllinois 2020 August 7-15, 2020
 - Lead the creation of a Web application that implements the Feynman technique, a highly effective learning 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 for use at client demonstrations
 - Created developer's guide documentation with Postman, Markdown, and Web Developer tools to aid customer usage of the product
 - Unit tested log management software to find and report bugs in software
 - Drove trucks and wired ethernet cables
 - 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 recurrent neural networks and reinforcement in generating music from video footage of dance
 - Using modern encoding techniques and LSTMs for proof of concept to pair dance video with an appropriate music
- **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 to increase computation speed
 - Research proposal accepted by neuroscience research lab, received guidance and \$2400 funding for project

Skills

Languages: Java, Python, JavaScript/ES6

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

Software: Android Studio, Figma, Jupyter Notebook

Campus Organizations

- **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)
 - Previous statuses: Member: August 2019 - July 2020
- **Executive Board Member, GT Pianoforte** Atlanta, GA
Georgia Tech January 2020 - Present
 - Redesign website for the organization using Wordpress
 - Manage piano jam sessions and manage social media on Discord
 - Play piano at concerts and socialize with other members of the club
 - Previous statuses: Member: January 2020 - September 2020