Alexander Y. Liu

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Education

Georgia Institute of Technology   GPA: 3.8   Atlanta, GA
B.S. Computer Science, 2022   *August 2019 - Present*
  – Selected courses: Machine Learning, Artificial Intelligence, Design and Analysis of Algorithms, Computer Vision, Objects and Design, Computer Organization and Programming (Intro to C / Assembly), Database Systems, Honors Linear Algebra with Abstract Vector Spaces, Discrete Mathematics, Combinatorics, Intro to Cognitive Science

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 monitor and manage 10000+ S&C devices
    – Redesigned and implemented backend microservices and proxy to retrieve data from S&C Electric's devices, resulting in complete elimination of excessive data schema and 4x performance gain
    – Collaborated with design team to redesign a user-friendly interface, and implemented the interface with React and Electron to streamline and optimize code base
    – Technologies used: Java, JavaScript, Redis, Spring Boot, WebSocket, GraphQL, Apollo, React.js, Electron.js

- **Product Manager and Team Lead**   Online
  Develop For Good   *September 2020 - December 2020*
    – 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*
    – Created a tracking device that has better range than most commercially available tracking tags by utilizing Global Positioning System (GPS)/Bluetooth/Wifi technology
    – Used GPS to determine vicinity of device within 200 feet and Bluetooth/Wifi/Ultrasound to identity exact location through visual and auditory cues
    – Technologies used: Android SDK, 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
    – Unit tested and documented log management software
    – Technologies used: Golang, MongoDB, Bootstrap, Vue.js, Node-RED, Postman, Markdown

Research Experience

- **FunTech Group**   Atlanta, GA - remote
  Chava Lab   *Spring 2021 - Present*
  - Discover patterns in language used by the Federal Reserve correlating to stock trends

- **Move2Music**   Atlanta, GA - remote
  Parikh Lab   *August 2020 - December 2020*
  - Researched uses of recurrent neural networks and reinforcement in generating music from video footage of dance
  - Used modern encoding techniques and LSTMs to prototype pairing dance video with appropriate music

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 2020 - 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