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Education

Georgia Institute of Technology GPA: 3.6 Atlanta, GA
B.S. Computer Science, 2023 *August 2019 - Present*

- Selected courses: Data Structures and Algorithms, Objects and Design, Honors Linear Algebra with Abstract Vector Spaces, Discrete Mathematics, Combinatorics, Statistics and Applications, Macroeconomics

Thomas Jefferson High School for Science and Technology Alexandria, VA
Main Interests: Computer Science, Neuroscience *September 2016 - June 2019*

- Selected coursework: Artificial Intelligence, Mobile Application Development, Web Application Development, AP Computer Science A and Data Structures, Neuroscience Research Lab, Neurobiology, Research Statistics

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

Selected Experience and Projects

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

- **Software Developer Intern** Rockville, MD - remote
  S&C Electric *May 2020 - Present*
  - Lead 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 tens of thousands (10000s) of devices
  - Fully produce microservices to retrieve data from S&C Electric's devices and to open channels for subscribing to the devices' data, as well as a proxy to unify all microservices
  - Build a front end interface for both the web and desktop with React.js and Electron.js, respectively. Collaborated on design with all designers working on this app
  - Technologies used: Java, Javascript, Redis, Spring Boot, WebSocket, STOMP, GraphQL, Apollo Server + Client, React.js, Electron.js
- **TAG** Atlanta, GA
  Create-X: Idea to Prototype *January 2020 - Present*
  - 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 identity exact location through visual and auditory cues
  - Technologies used: Android Studio, Java, XML, Google Nearby Messages API, Google Maps API

Research Experience

- **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
  - Used 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