Alexander Y. Liu

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Education

Georgia Institute of Technology　　GPA: 3.6　　Atlanta, GA
B.S. Computer Science, 2021　　*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, Golang, SQL, HTML, CSS, LaTeX

Software: Terminal (Linux, Mac), Postman, Android Studio, Visual Studio Code, Jupyter Notebook, IntelliJ IDEA, PyCharm, jGRASP, Google Colabratory

Infrastructures and Frameworks: Node.js, React.js, Bootstrap, Git, MySQL, MongoDB/MongoDB Atlas, Firebase, Redis, Linux OS (Ubuntu, Fedora)

Selected Experience and Projects

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

- **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 GPS/Bluetooth/Wifi technology
  – Technologies used: Android Studio, Java, XML, Google Nearby Messages API, Google Maps API

- **CoronaDigest**　　Charlottesville, VA
  HookHacks 2020　　*March 28-29, 2020*
  – Make a web application that provides the latest news about Coronavirus (COVID-19), including a 2-minute daily digest, a 3D globe of Coronavirus cases, and financial information related to the Coronavirus.
  – Technologies used: Python, Plotly, Seaborn, Matplotlib, MongoDB Atlas, Pandas, Jupter Notebook, Flask, Jinja, Bootstrap

- **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, Visual Studio Code

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
  – 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

- **Alzheimer's Disease Research** Alexandria, VA
  Project Lead June 2017 - August 2017
    - **Title**: Exploration of Chelation Materials for Treatment of Alzheimer's Disease
    - Used ABINIT, an open-source package for making predictions about molecular systems based on solving quantum physics equations.
    - Submitted to Siemens Competition 2017, achieved the semifinalist award

Community Leadership

- **Instructor of *Introductory Computer Science*** Chantilly, VA
  Hope Chinese School January 2015 - June 2019
    - Co-founded and instructed first computer science course in Hope Chinese School
    - Outstanding service recognition for multiple years (2017, 2018) for voluntary service, received paid position in 2018-2019 school year