

Alexander Y. Liu
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Education

Georgia Institute of Technology

B.S. Computer Science, 2021

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

GPA: 3.6 Atlanta, GA

August 2019 - Present

Thomas Jefferson High School for Science and Technology

Main Interests: Computer Science, Neuroscience

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

Alexandria, VA

September 2016 - June 2019

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 Colab

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 technology
 - Technologies used: Android Studio, Java, GPS, 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, Jupyter 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