

# Alexander R. Tsai

alex5@vt.edu | 571-314-6769  
Github: <https://github.com/atsai1997>

## Education

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### Virginia Polytechnic Institute and State University (Virginia Tech), Blacksburg VA

B.S. Computer Engineering

Expected Graduation: May 2019

GPA: **3.70/4.00**

## Work Experience

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### Software Developer/Architecture Internship

June 2018 – August 2018

*Gap Inc, San Francisco, CA*

- Contributed to end-to-end product development by creating API endpoints using Springboot Applications written in Java
- Developed custom Gradle tasks to mimic cf CLI commands using cf-java-client library
- Deployed an application onto Pivotal Cloud Foundry using blue-green deployment methods
- Built a warehouse management web application using MySQL, Springboot, and AngularJS to provide a more efficient way to store and view warehouse software data
- Wrote JUnit tests and component tests using Java and Cucumber
- Utilized Agile development methodologies using Jira as our project management tool

### Software Engineering Internship

May 2017 – August 2017

*BITSystems, Sterling, VA*

- Microprocessor development for short-mission Cubesat operation
- Programmed a microcontroller to receive an optimized schedule from a computer using UART protocol written in C
- Implemented RF transceivers to transmit a schedule between two microcontrollers using SPI protocol written in C
- Created a PowerShell script to fully automate the process of generating, receiving, transmitting, and executing the schedule

### Programming Instructor

June 2016 – August 2016

*Fairfax Collegiate, Fairfax Virginia*

- Led 6+ classes of 5<sup>th</sup> to 9<sup>th</sup> grade students with around 15 students per class
- Taught various subjects including Python, Java, Game Mod and Design, and Minecraft Mod

## Personal Projects/Extracurricular Activities

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### Design Team Engineer

January 2018 – Present

*BOLT (Battery Operated Land Transportation), Blacksburg, VA*

- Designing and building a fully electric motorcycle from scratch and racing it against other teams
- Implemented PyMongo to log race data from the CAN bus so data can be stored and viewed in a more effective manner
- Designed and programmed a state machine using Python and PyQt to visualize the startup sequence of the bike

### RGB LED Intensity Controller

May 2018

- Architected and built a web application using Flask, HTML, CSS, and Javascript on a Raspberry Pi
- Allows the user to control the color and the settings of the RGB LED from any location

### Webmaster

April 2016 – May 2017

*Chinese American Society, Virginia Tech, Blacksburg VA*

- Built and maintained the website using HTML with a Bootstrap framework and CSS styling
- Coordinated with 17 other board members to lead bi-weekly meetings to improve awareness around Chinese culture

## Skills

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Languages: C++ (3 years), Java (1 year), C (6 months), SQL (1 semester), Python (1 semester), HTML (Basic)

Software: IntelliJ, Visual Studio, QtCreator, Github, Jira, MPLAB X, Microsoft SQL Server Management, Quartus

## Academic Honors

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Dean's List Recipient (Every Semester)

Fall 2015 – Spring 2018

Galileo Living Learning Community

Fall 2015 – Spring 2016

STEP Book Scholarship

August 2015