James **Liu**

SOFTWARE ENGINEER · MACHINE LEARNING

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Summary

Currently a Software Engineer at Google with a strong passion for vim, Linux, and artificial intelligence. Interested in applying bleeding edge research in machine learning to practical real world problems.

Work Experience

Google   *Mountain View, CA*

SOFTWARE ENGINEER   *Jan. 2016 - PRESENT*

- Developed and utilized machine learning models at scale to improve the data quality of Google Maps.
- Desgined and implemented automated deep learning pipelines to extract real-world information from disparate data sources (StreetView, satellite imagery, Android locaiton data) to update basemap data.
- Leveraged modern big data and machine learning technologies including Google Cloud Dataflow, MapReduce, Tensorflow, containers, and many other Google-internal technologies (Borg, Colossus, etc).

Georgia Tech College of Computing   *Atlanta, GA*

UNDERGRADUATE RESEARCHER   *Jan. 2014 - Aug. 2015*

- Researching program analysis with Professor Bill Harris
- Tested applications of using Craig interpolation and unwinding trees in concurrency and complexity analyses

Georgia Tech School of Electrical and Computer Engineering   *Atlanta, GA*

LEAD TEACHING ASSISTANT   *Jan. 2014 - Dec. 2015*

- Teaching ECE 2031: Digital Design Lab
- Taught FPGA programming, VHDL, computer architecture design, assembly, and rapid prototyping techniques

Georgia Tech Research Institute Signature Technologies Laboratory   *Atlanta, GA*

RESEARCH INTERN   *Jun. 2012 - Aug. 2012*

- Designed and implemented a robot that autonomously searched for power sources
- Implemented an exploration algorithm that utilized sensor input from a 9 axis IMU and the Android camera
- Designed and fabricated parts such as sensor housings and grippers with Autodesk Inventor and 3D printers

Education

Georgia Institute of Technology   *Atlanta, GA*

B.S. IN COMPUTER SCIENCE   *Aug. 2012 - Aug. 2016*

Open Source Work

Hourai Teahouse

TECHNICAL LEAD & FOUNDER   *Jun. 2010 - PRESENT*

- Lead and managed a hobbyist game development group of developers from around the world
- Created open source video games and video game development kits, mostly for the Unity3D engine
- Organized a multidiscipline team of 3D modelers, animators, musicians, software engineers, etc.

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CREATOR & MAINTAINER   *Aug 2015 - PRESENT*

- Free and open source middleware for creating high performance game simulation of large quantities of similar objects, explicitly optimized for bullet hell video games
- Built on the Unity3D engine and optimized for desktop, mobile, and console based platforms
- Utilized multithreaded data-oriented programming to maximize performance by reducing cache misses and maximizing CPU utilization