

Victor Jiao

vjiaoblack@gmail.com - (718) 808-5135 - [vjiaoblack.github.io](https://github.com/vjiaoblack)

Education

The University of Chicago '18 (*MS in Computer Science*)

- Course Highlights: Self Driving Vehicles, Advanced Data Analytics, Scientific Visualization

The University of Chicago '18 (*Honors BS in Computer Science*)

Major: 3.72 / 4.0

- ACM-ICPC Midwest Regional Competition, placed 19/140 in 2015, 11/140 in 2016
- Member of Voices in Your Head, a nationally acclaimed, competitive, collegiate a cappella group
- UChicago: Computer Graphics, Game Construction, Distributed Systems, Parallel Computing
- TTIC (PhD Coursework): Machine Learning, Unsupervised Learning, Speech Technologies

Skills

Languages

C, C++, Python, HTML/CSS, Haskell, Javascript, GLSL, Bash

Libraries and Tools

Git, Linux, Ogre3D, SDL2, OpenGL, GLSL, NumPy, scikit-learn, Makefile, LaTeX, AutoCAD,

Experience

Magic Leap (*Graphics System Engineer*) C++, OpenGL, GLSL

Summer 2018

- Enhanced blend functions and modified the pipeline on compositing systems to improve text clarity

to present

Facebook (*Software Engineering Intern*) PHP/Hack, Hive/MySQL

Summer 2017

- Created a new data pipeline for storing features within Facebook's payment fraud detection system.
- Designed, researched, and implemented novel data compression algorithms for that pipeline
- Created a new flexible feature generation system on top of the existing system, reducing the required feature count by an order of magnitude.

Google (*Software Engineering Intern*) C++, GLSL

Summer 2016

- Implemented the first 3D shadow mapping algorithms for Skia, Google's 2D graphics engine
- Designed novel modifications to conventional shadow mapping to allow for several types of lighting
- Designed comprehensive tests to analyze performance over a variety of rendering contexts.

Projects

Shape Defense. C++, SDL2

Created a tower-defense game in C++ and SDL2, complete with a physics system and AI system. Implemented an efficient quadtree collision system for physics.

Procedural Terrain Generation. C++, SDL2

Built a flexible and powerful framework for supporting randomized terrain generation. Models climate, erosion, and rainfall dynamics in real-time.

Weather Modeling. Python, scikit-learn, NumPy

Analyzed weather data from airports by using statistical machine learning models. The model learned a higher-level sense of climate, and achieved a 15-30% accuracy boost beyond naive methods.

Pirate Panic. C++, Ogre3D, OpenGL

Led a team of five students to code a 4-way multiplayer game including sky and water rendering, a robust server design, a custom physics engine, and a simple AI. Personally worked on the graphics engine and integrating all of the components of the final game together.

Distributed Key-Value Store. Python

Implemented multi-paxos, a distributed algorithm for consistent and fault-tolerant key-value storage. Multi-paxos is a more efficient variant of the classic Paxos algorithm.