

Yige (Kristina) Liu

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EDUCATION

University of Michigan, Ann Arbor

Bachelor of Science in Computer Science (Physics Minor)

April 2020

GPA: 3.90/4.00

Related Courses: Computer Vision, Machine Learning, Web Systems, Data Structures and Algorithms, Introduction to Computer

Organization, Foundations of Computer Science, Linear Algebra, Discrete Math

University of California, Berkeley (Summer School)

June 2017 - August 2017

Completed courses in Computer Science (data structure) and Physics

GPA: 4.00/4.00

WORK EXPERIENCES

University of Michigan, Ann Arbor - Fouhey AI Lab

September 2019 - present

Research Assistant

- Currently working on the project of using Computer Vision to classify and predict solar activities

Verizon Media

Tumblr Search and Dashboard Intern

May 2019 - July 2019

- Performed big data analysis to compute search signal benchmarks with MapReduce jobs using Scala and HDFS.
- Implemented online part of the search signal to shuffle the search result based on benchmarks and chosen statistical distribution using PHP.
- Incorporated the search signal into the product and performed the A/B test. Based on the test result, user engagement is significantly improved.

Cambricon Technologies Co., Ltd.

Algorithm Intern

June 2018 - August 2018

- Trained Computer Vision model using YOLOv3 and YOLOv3-spp
- Implemented C++ based application program for object detection using darknet model and Caffe2 framework
- Generated video demo of real-time object detection with customized video pipeline

University of Michigan, Ann Arbor - Crowds and Machines (CROMA) Lab

Research Assistant / Team Lead

April 2018 - present

- Modified CARLA simulator (Open-source simulator for autonomous driving research) to recreate user-specified driving situations. The goal is to construct driving situations based on Computer Vision outputs.
- Current project: Detecting Events with Stable Patterns by Combining Human Rules and Machine Automation

National Astronomical Observatories, Chinese Academy of Sciences

Research Assistant

May 2017

- Completed report and presentation on FAST and Arecibo Telescope in Prof. Jingsong Ping's Lunar Exploration group for GLEX 2017 and China-South Africa Bilateral Workshop

SELECTED PROJECTS

University of Michigan, Ann Arbor

Neural Image Caption Generator

April 2019

- Implemented the neural image caption generator based on Show, Attend And Tell from scratch using PyTorch
- Major components: data preprocessing; Convolutional Neural Network (CNN) as an encoder; attention mechanism; Recurrent Neural Network (RNN) as a decoder; Beam Search to find most optimal caption; Sentence Generation and evaluation

Star Wars (stock market simulation)

February 2018

- Designed and Implemented C++ based program to simulate the stock trading and determine the optimal point at which to buy and then later sell the same commodity to achieve the highest profit margin
- Priority queues and streaming algorithm are used to achieve the simulation

University of California, Berkeley

Gitlet

July 2017

- Designed and implemented a Java-based version-control system mimicking the basic features of git
- Extensively utilized data structures, cryptographic hash function, and serialization to realize the system with great efficiency

ORGANIZATIONS

University of Michigan, Ann Arbor

Chinese Students and Scholars Association (Vice president)

September 2017 - present

- Organized activities to help Chinese scholars to be included in the university and build professional connections
- Content curator and co-runner of CSSA online platform with more than 10,000 subscribers

TECHNICAL SKILLS

Programming languages: Java, C++, C, Python, Javascript, HTML, PHP, Scala, MATLAB, R, SQL

Platforms: Mac OS, Windows, LINUX **Programming tools:** Eclipse, Xcode, IntelliJ IDEA, Visual Studio, Android Studio, Vim