

SIYUAN FENG

UNDERGRADUATE STUDENT, COMPUTER SCIENCE

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Education

B.Sc. in Computer Science - Shanghai Jiao Tong University Sept 2016 - Present

- Member of [ACM Honors Class](#), which is an elite CS program for top 5% talented students.

Research Experience

APEX Data & Knowledge Management Lab - Shanghai Jiao Tong University July 2018 - Present

- Undergraduate Researcher, advised by [Prof. Weinan Zhang](#) and [Prof. Yong Yu](#).
- Research interests: Deep Reinforcement Learning and Natural Language Generation (NLG).

SAMPL - University of Washington July 2019 - Present

- Research Intern, advised by [Prof. Luis Ceze](#).
- Now I am working on [TVM](#), an exciting deep learning compiler stack

Publications

CityFlow: A Multi-Agent Reinforcement Learning Environment for Large Scale City Traffic Scenario - WWW 2019 Demo 2019

Huichu Zhang, **Siyuan Feng**, Chang Liu, Yaoyao Ding, Yichen Zhu, Zihan Zhou, Weinan Zhang, Yong Yu, Haiming Jin, Zhenhui Li

Improved Training of Sequence Generative Models - ICML 2019 2019

Sidi Lu, Lantao Yu, Siyuan Feng, Yaoming Zhu, Weinan Zhang, Yong Yu

Teaching

MS106: Principle and Practice of Computer Algorithms - SJTU Summer 2018

- https://acm.sjtu.edu.cn/wiki/PPCA_2018
- *Student Instructor*
- Led the TA team (was one of the three lead TAs).
- Maintained the Online Judge System for assignments and exams. And built a new judge core for it.
- Instructed a group of students to implement a simplified Deep Learning System with some simple APIs which is same as those in TensorFlow.

CS147: Data Structures - SJTU Spring 2018

- https://acm.sjtu.edu.cn/wiki/Data_Structures_2018
- *Teaching Assistant*
- Led the TA team (was one of the three lead TAs).
- Prepared the course project (a railway ticket management system) with other TAs.
- Prepared the course project (STLite in C++).

CS151: C++ Programming (A) - SJTU Autumn 2017

- https://acm.sjtu.edu.cn/wiki/Programming_2017
- *Teaching Assistant*
- Gave a lecture on C++ multithreading programming.
- Prepared the course project (Quoridor Game) with other TAs.
- Prepared the course project (OOP programming in C++) with other TAs.

Honors and Awards

Zhiyuan Leadership Scholarship - Shanghai Jiao Tong University	2017
Zhiyuan Honorary Scholarship - Shanghai Jiao Tong University	2016 & 2017
The 9th Asia and Pacific Informatics Olympiad (APIO) - Bronze Medal	May 2015

Selected Projects

Apache TVM - Open Deep Learning Compiler Stack	2019
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· [🔗 https://github.com/apache/incubator-tvm](https://github.com/apache/incubator-tvm)

· [🏠 https://tvm.apache.org/](https://tvm.apache.org/)

· Compilation of deep learning models in Keras, MXNet, PyTorch, Tensorflow, CoreML, DarkNet into minimum deployable modules on diverse hardware backends.

· Infrastructure to automatic generate and optimize tensor operators on more backend with better performance.

CityFlow - A Simulator for Large Scale City Traffic Scenario	2018
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· [🔗 https://github.com/cityflow-project/CityFlow](https://github.com/cityflow-project/CityFlow)

· [🏠 https://cityflow-project.github.io](https://cityflow-project.github.io)

· CityFlow is a new designed open-source traffic simulator, which is much faster than SUMO.

· CityFlow supports flexible definitions for road network and traffic flow based on synthetic and real-world data.

· It also provides user-friendly interface for reinforcement learning.

M-Compiler - A Compiler for Mx* Language	Spring 2018
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· [🔗 https://github.com/Hzfengsy/M-Compiler](https://github.com/Hzfengsy/M-Compiler)

· It is a compiler implemented in Java from scratch, and the source language is Mx*, which is a C-and-Java-like language.

· Implemented many optimizations for the compiler, which got it faster than gcc O1.

· Final score: 95 / 100.

RISC-V - A RISC-V CPU on FPGA	Fall 2017
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· [🔗 https://github.com/Hzfengsy/RISC-V](https://github.com/Hzfengsy/RISC-V)

· Designed and implemented a FPGA-supported RISC-V CPU with 5-stage pipeline implemented in Verilog HDL.

TitanFlow - A Simple Deep Learning System	Summer 2017
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· [🔗 https://github.com/Hzfengsy/titanflow](https://github.com/Hzfengsy/titanflow)

· Designed and implemented a simple Deep Learning System with some same APIs as TensorFlow.