Siyuan Feng

Ph.D. Student, Computer Science

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Education

Ph.D. in Computer Science - Shanghai Jiao Tong University · Sept 2020 - Present

· Member of Zhiyuan Honors Program for Ph.D. students, which is the honors class for talented Ph.D. students.

B.Sc. in Computer Science - Shanghai Jiao Tong University · Sept 2016 - July 2020

· 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

· Advised by Prof. Weinan Zhang and Prof. Yong Yu .
· Now I am working on TVM , an exciting deep learning compiler stack.
· Research interests: Deep learning systems, Deep learning compiler and urban data computing.

SAMPL - University of Washington · July 2019 - Present

· Research Intern, advised by Prof. Tianqi Chen and Prof. Luis Ceze .
· Integrate the Tensor Core support with TVM, which is widely used in industries.

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 Fen**g, 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*, leading the TA team (was one of the three lead TAs).
· Rewrite and enhance the Online Judge System for assignments and exams with a new judge core.
· Instructed a group of students to implement a simplified Deep Learning System with some simple APIs.

CS147: Data Structures - SJTU · Spring 2018

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

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

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

Honors and Awards

Outstanding Graduates - Shanghai Jiao Tong University | 2020

Xing Cai Scholarship - Shanghai Jiao Tong University | 2018

Merit Student - Shanghai Jiao Tong University | 2018

Zhiyuan Leadership Scholarship - Shanghai Jiao Tong University | 2017

Zhiyuan Honorary Scholarship - Shanghai Jiao Tong University | 2016 - 2019

Highlight Projects

Apache TVM - Open Deep Learning Compiler Stack | 2019 - Present

· ○ https://github.com/apache/incubator-tvm
· ⌂ 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

· ○ https://github.com/cityflow-project/CityFlow
· ⌂ 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

· ○ 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

· ○ 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

· ○ https://github.com/Hzfengsy/titanflow
· Designed and implemented a simple Deep Learning System with some same APIs as TensorFlow.