Kaiwen Sheng

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Peking University, Haidian District, Beijing

EDUCATION

Peking University   *Sep 2016 - Jun 2020*

Electronic Engineering and Computer Science   *Beijing*

- GPA: 3.7 / 4.0

RESEARCH EXPERIENCE

Automatic Scheduler for Tensor Operations on Heterogeneous System   *Apr 2019 - Aug 2019*

Peking University

- Constructed and scheduled operations under TVM framework with unified primitives.
- Hand-crafted tensor operators on GPUs and CPUs to promote performance.
- Performed experiments on heterogeneous systems and analyzed the results.
- The work is submitted to ASPLOS 2020: "FlexTensor: An Automatic Schedule Exploration and Optimization Framework for Tensor Computation on Heterogeneous System".

Real-Time Embedded Object Detection System for H.264 Videos   *Oct 2018 - Feb 2019*

Peking University

- Designed the algorithm to utilize the motion vectors extracted from a H.264 coded video to faster the object detection procedure on Xavier embedded system ~13 times with little accuracy loss.
- Optimized the procedure to extract the motion vectors from raw video streams.
- Designed the asynchronous system framework to parallel the overhead on neural network computation and motion vector process.
- The work is submitted to IEEE Design & Test: "Real-Time Embedded Object Detection System for H.264 Videos".

A General-Purpose Tracker for Animal Behavior Analysis   *May 2019 - Present*

Peking University

- Designed a deep learning based tracker for animal behavior analysis to ease labeling efforts of biological experimentalists.
- Performed experiments and analyzed performance.
- Wrote the paper and drew all the figures of the paper.

Parameters Tuning and Dynamic Analysis of Detailed Neural Models   *Aug 2019 - Present*

Peking University

- Designed deep learning based algorithm to estimate dynamical parameters for neural models.
- Analyzed accuracy performance and generalization ability of the algorithms.

Blind Image Denoising Filter Inspired by Gap Junctions from Biology   *Apr 2019 -*

Peking University

- Analyzed accuracy and performance of the model
- Performed experiments of the model

TEACHING EXPERIENCE

Teaching Assistant on Algorithm Design and Analysis Seminar   *Feb 2019 - Jun 2019*

Teaching Assistant   *Peking University*

- Led discussions in class and corrected exercises for students.
- Assisted students on reviewing lessons and reading papers.
- Set exam papers for the whole class.

LEADERSHIP EXPERIENCE

Badminton Association in Peking University   *Sep 2019 - Present*

Head of the Association   *Peking University*

- Helped organize badminton competitions in Peking University.
- Scheduled friendly matches among colleges.
- Attends competitions on behalf of Peking University.

AWARDS

- Yanhong Li Scholarship of Peking University   *2019.9*
- Excellent Research of Peking University   *2019.9*
- 3rd place in Badminton men's singles in 2018 Capital College Badminton Cup   *2018.11*
- Ke Chuanglong Scholarship of Peking University   *2018.9*
- 2nd place in Badminton men's team in 2018 Capital College Badminton Cup   *2018.5*
- Merited Student of Peking University   *2017.9 & 2018.9*

- May Fourth Scholarship of Peking University   *2017.9*