

CONTACT INFORMATION

Department of Computer Science
University of Chicago
John Crerar Library
5730 S. Ellis Ave.
Chicago, IL 60637

RESEARCH INTERESTS

Video Analytics, Networking

EDUCATIONS

2019 Sep - present

Ph.D. in Computer Science

UNIVERSITY OF CHICAGO, ILLINOIS, UNITED STATES OF AMERICA

2015 Sep - 2019 Jul

Bachelor in Computer Intelligence Science

PEKING UNIVERSITY, BEIJING, CHINA

PUBLICATIONS

SIGCOMM 2020 (to be appear)

Server-Driven Video Streaming for Deep Learning Inference

Kuntai Du*, Ahsan Pervaiz*, Xin Yuan, Aakanksha Chowdhery, Qizheng Zhang, Henry Hoffmann, Junchen Jiang

MobiCom 2020

Renovating Road Signs for Infrastructure-to-Vehicle Networking: A Visible Light Backscatter Communication and Networking Approach

Purui Wang, Lilei Feng, Guojun Chen, Chenren Xu, Yue Wu, Kenuo Xu, Guobin Shen, **Kuntai Du**, Gang Huang, Xuanzhe Liu

AWARDS

NSDI travel grant (2020) Merit Student (2016-2017)

Kwang-Hua Scholarship (2016-2017)

Bronze medal in National Olympiad in Informatics (2014)

TEACHING EXPERIENCE

Attend teaching assistant at CS15400: Introduction to Computer System (2020)

Attend teaching assistant at Algorithm Design and Analysis two times. (2018,2019)

RESEARCH EXPERIENCE

2019 Sep - present

Advised by Junchen Jiang

JUNCHEN'S GROUP, UNIVERSITY OF CHICAGO

Machine-centered Video Analytics

- Apply DNN-driven approach in video streaming and provide sizable(2.5x) bandwidth saving on multiple applications.
- Propose a general insight: 90% of the workload should be solved using a uniform solution.

2018 Sep - 2019 Jul

Research Assistant of Prof. Chenren Xu

SOAR GROUP, PEKING UNIVERSITY

Battery-free Backscatter Communication and Positioning Via Visible Light Communication

- Propose a dynamic-programming-based demodulation algorithm for high-frequency demodulation.
- Propose a localization algorithm based on self-developed ranging algorithm and achieve sub-meter accuracy.

2018 Jul - 2018 Aug

Research Assistant of Prof. Boris Grot

UNIVERSITY OF EDINBURGH

Software Optimization: Probabilistic Soft Logic

- Profile the software find that the performance is bounded by severe load imbalance and too much remote memory access.
- Re-implement the optimization phase in C++ for fine-grained workload and memory control.
- Propose a heuristic algorithm to optimize the memory access patterns iteratively.

2017 Jul - 2018 Jul

STRUCT, PEKING UNIVERSITY

Research Assistant of Prof. Jiaying Liu

Single Image De-raining

- Propose a new discriminator for the residue layer. This method is suitable for other low-level image generation tasks to capture the specific prior knowledge.
- Propose a multi-granularity perceptual loss based on online learning theory.

SKILLS

●**Programing Language:**

C/C++, Python, lisp, Matlab, Java.

●**AI-related:**

Low-level image processing, Feature extraction, deep learning, online learning, Tensorflow, PyTorch.

●**Theory-related:**

Basic analysis skill towards real/complex variable functions and operators, optimization, information theory, discrete math.

●**System-related:**

Profile, basic MCU programming, basic os-level programming, basic parallel programming, basic network programming.

●**Others:**

Singing, street dance, drum, xiao.