

Yannan Li

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Education

University of Southern California (USC)

Los Angeles, California, USA

PH.D. STUDENT

Aug. 2018 - Current

- Fully sponsored by USC
- Interested in static analysis, program synthesis, data security
- Optimized a 2-path algorithm on CPU/GPU Heterogeneous Platform
- Research Advisor: Chao Wang

University of Science and Technology of China (USTC)

Hefei, Anhui, China

B.ENG. IN COMPUTER SCIENCE AND TECHNOLOGY

Sept. 2013 - June. 2017

- Granted for Excellent Graduates of University of Science and Technology of China(USTC)
- Granted for Yangya Award, which is the highest female fellowship in USTC (only 20 recipients)
- Selected to the Talent Program in Computer Science and Technology
- Research Advisor: Prof. Lan Zhang, Prof. Xiangyang Li (10 months)

Projects

Differential Model Counting

Los Angeles, CA, USA

RESEARCH PROJECT, USC

Dec. 2019 - Current

- We designed differential model counting, which provides an efficient and accurate method for detecting power side channel. ☑

Constraint-Based Precomputation

Los Angeles, CA, USA

RESEARCH PROJECT, USC

Aug. 2018 - Dec. 2019

- We proposed a program analysis based method for optimizing energy utilization automatically. ☑
- We develop a sound static analysis to identify precomputation opportunities, an SMT solver based method to optimize the precomputation policy, and a semantic-preserving transformation to generate the optimized program.
- The paper is under submission. I am the first author.

Game: Cooking Journey

Los Angeles, CA, USA

COURSE PROJECT, USC

Aug. 2019 - Dec. 2019

- [video].
- Collaborated with other three students.
- Wrote a game, CookingJourney, which combines both cooking and racing games using Unity.
- Yannan Li finished the cooking part.
- This course we get 4.0/4.0.
- Invited by Prof. Mike Zyda to attend USC Games Showcase.

Online Incentive Mechanism for Live Resources Purchasing

Hefei, Anhui, China

LAB FOR INTELLIGENT NETWORKING AND KNOWLEDGE ENGINEERING, USTC

Oct. 2017 - Present

- Designing an online incentive mechanism of crowdsourcing based live resources purchase for time-sensitive tasks.

Privacy-Preserving Image Trading through Crowdsourcing

Hefei, Anhui, China

LAB FOR INTELLIGENT NETWORKING AND KNOWLEDGE ENGINEERING, USTC

Dec. 2016 - Oct. 2017

- Lead a five-member team.
- Proposed and implemented a novel ownership and privacy aware image trading system based on crowdsourcing.
- Designed a novel image evaluation and selection method based on CNN (Convolutional Neural Network) model.
- Minimized computation and communication overhead in both servers and clients sides.
- Evaluation and experiments show high quality of our selected datasets and high efficiency of our methods.
- Accepted by INFOCOM18 (first-student author, second author).

Optimized a 2-path Shortest Algorithm on CPU/GPU Heterogeneous Platform

Calgary, Albert, Canada

MATHEMATICS DEPARTMENT, UNIVERSITY OF CALGARY

June. 2016 - Sept. 2016

- Project of International Exchange Program for Outstanding Undergraduates.
- Project of Mitacs Globalink Research Intern Program.
- Implemented and optimized the 2-D shortest path algorithm on CPU/GPU heterogeneous platform.

Optimized Distributed Applications in 2016 International Student Cluster Competition

Frankfurt, Hessen, Germany

ADVANCED COMPUTER SYSTEM ARCHITECTURE LABORATORY

Nov. 2015 - June. 2016

- Ranked 4th in the Final of 2016 International Student Cluster Competition, held by HPC Advisory Council.
- Optimized two classical scientific software Lammmps and Splotch on a ten-node cluster with 3000W power constraint.

Implemented a CPU of MIPS Based on FPGA

Hefei, Anhui, China

HARDWARE CENTER (USTC)

July. 2015

- A personal project.
- Implemented a five-stage pipeline MIPS CPU which had been verified on the FPGA.

Publications

- Lan Zhang, **Yannan Li (first-student author)**, Xiang Xiao, Xiang-Yang Li, Junjun Wang, Anxin Zhou, Qiang Li. CrowdBuy: Privacy-friendly Image Dataset Purchasing via Crowdsourcing, **IEEE INFOCOM 2018**.
- A paper submitted to ISSTA 2021, first-author

Other Experience

Teaching Assistant for Computer Organization

Hefei, Anhui, China

UNIVERSITY OF SCIENCE AND TECHNOLOGY OF CHINA

Feb. 2016 - June. 2016

- Selected by competitive programming-based examination conducted by School of Computer Science and Technology.
- Conducts teaching assistant affairs including assignments, on-/off-campus guidance, laboratories and examinations.
- Received high comments on helpfulness and expertise from students.

Vice President of Technical Department of Student Union

Hefei, Anhui, China

UNIVERSITY OF SCIENCE AND TECHNOLOGY OF CHINA

Nov. 2013 - Oct. 2016

- Built up experience on student affairs, including peer-tutoring, curriculum feedback, representative of class hiring, coordination between students and teaching assistants and ice-breaking activities.
- Held the 'Linux Installation Competition' in the school.
- Hosted the 'Netgame Competition' in the school, leading a team of 25.

Vice President of Baidu Club

Hefei, Anhui, China

UNIVERSITY OF SCIENCE AND TECHNOLOGY OF CHINA

Nov. 2013 - Oct. 2016

- Delivered talks and speeches to introduce states-of-art technologies.
- Hosted a Java Programming contest to attract freshmen and seniors for Baidu Club.

Honors & Awards

ACADEMIC GRANT

2016 **International Exchange Program for Outstanding Undergraduates**, China Scholarship Council

National

2016 **Mitacs Globalink Research Intern Grant**, Canada Mitacs

International

PROJECT GRANT

2016 **International Contest for Innovation Grant**, USTC & Huawei Technologies Company Limited

Univ. & Co.

2014 **Innovation Project Grant**, USTC-CHINESE National Center for Engineering Education

University

ACADEMIC

2016	4th in Final , International Student Cluster Competition, held by HPC Advisory Council in Germany	<i>International</i>
2015	Outstanding , Stars of Baidu	<i>University</i>
2014	2nd Award , Electromagnetic Paper Contest	<i>University</i>
2014	Outstanding , Volunteer Work 100	<i>University</i>

INNOVATIVE

2017	Excellent Graduates , University of Science and Technology of China	<i>University</i>
2017	Outstanding Student Scholarship , University of Science and Technology of China	<i>University</i>
2016	Yangya Scholarship , University of Science and Technology of China	<i>Organization</i>
2016	Outstanding Student Scholarship , University of Science and Technology of China	<i>University</i>
2015	Outstanding Student Scholarship , University of Science and Technology of China	<i>University</i>
2014	Outstanding Freshman Scholarship , University of Science and Technology of China	<i>University</i>

ORGENIZATION

2015	Excellent Student Cadre , University of Science and Technology of China	<i>University</i>
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Skills

Program	C/C++, Python, TensorFlow, Verilog HDL, CUDA, Shell
Tool	Latex, Linux, Matlab, Qt, MySQL