

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
- 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 Excellent Graduates Award from University of Science and Technology of China (USTC)
- Granted Yangya Award, highest fellowship for female scholars 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, providing 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 (first author) is under submission

Privacy-Preserving Image Trading through Crowdsourcing

Hefei, Anhui, China

LAB FOR INTELLIGENT NETWORKING AND KNOWLEDGE ENGINEERING, USTC

Dec. 2016 - Oct. 2017

- Led 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
- 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, Alberta, 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 LAMMPS 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

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| 2016 | International Exchange Program for Outstanding Undergraduates , China Scholarship Council | National |
| 2016 | Mitacs Globalink Research Intern Grant , Canada Mitacs | International |

PROJECT GRANT

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| 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

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

INNOVATIVE

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|------|---|--------------|
| 2017 | Excellent Graduates , University of Science and Technology of China | University |
| 2017 | Outstanding Student Scholarship , University of Science and Technology of China | University |
| 2016 | Yangya Scholarship , University of Science and Technology of China | Organization |
| 2016 | Outstanding Student Scholarship , University of Science and Technology of China | University |
| 2015 | Outstanding Student Scholarship , University of Science and Technology of China | University |
| 2014 | Outstanding Freshman Scholarship , University of Science and Technology of China | University |

ORGANIZATION

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| 2015 | Excellent Student Cadre , University of Science and Technology of China | University |
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Skills

Program C/C++, Python, TensorFlow, Verilog HDL, CUDA, Shell, Java
Tool LLVM Compiler (Static Analysis, Automatic Program Transformation), Unity, Latex, Linux, Matlab, Qt, MySQL