Yannan Li

+1(213)819-0899, yannanli@usc.edu

EDUCATION

Ph.D., Computer Science *2018 - now*
University of Southern California (USC)
GPA: 3.78/4.0

B.E., Computer Science *2013 - 2017*
University of Science and Technology of China (USTC)
GPA: 3.84/4.3 Rank: 7/109

PROJECT EXPERIENCE

Verifying the Robustness of KNNs against Data-Poisoning Attacks *2019 - 2020*
- Proposed a method for soundly over-approximating the KNN behaviors during both parameter tuning and prediction phases under data-poisoning attacks
- Developed optimizations to prune the search space while maintaining accuracy
- Experiments show the high accuracy and high efficiency of our methods on both small and large datasets

Constraint-Based Precomputation on Energy-Harvesting Devices *2018 - 2019*
- Developed a sound static analysis to identify precomputation opportunities
- Used an SMT solver based method to optimize the precomputation policy
- Applied a semantic-preserving transformation to generate the optimized program
- Implemented our method in the LLVM compiler

Game: Cooking Journey *2019*
- Wrote a game, Cooking Journey, combing both cooking and racing games using Unity
- Collaborated with other three students
- Invited by Prof. Mike Zyda to attend USC Games Showcase

Privacy-Preserving Image Trading through Crowdsourcing *2016 - 2017*
- Led a five-member team
- Designed a privacy-aware image trading system based on crowdsourcing
- Designed an image selection method based on the CNN model
- Minimized computation and communication overhead in both servers and clients sides
- Experiments show the high quality of our selected datasets and the high efficiency of our methods

SELECTED PUBLICATION

1. Constraint-Based Analysis for Energy Optimization via Precomputation
Yannan Li, Chao Wang *(Under Submission)*

2. Verifying the Robustness of KNNs against Data-Poisoning Attacks
Yannan Li, Jingbo Wang, Chao Wang *(Under Submission)*

3. Fair Decision Tree Learning via Iterative Constraint Solving
Jingbo Wang, **Yannan Li**, Chao Wang *(Under Submission)*

4. CrowdBuy: Privacy-friendly Image Dataset Purchasing via Crowdsourcing
Lan Zhang, **Yannan Li**, Xiang Xiao, Xiang-Yang Li, Junjun Wang, Anxin Zhou, Qiang Li
*IEEE International Conference on Computer Communications (***INFOCOM' 18***)*

TECHNICAL SKILLS

Programming Languages	C, C++, Python, Java, Shell, Verilog HDL, TensorFlow, HTML
Compile	LLVM, Java Soot (Static Analysis, Program Transformation)
Verification/Synthesis	Z3 (SAT/SMT Solver), SyGus (Program Synthesis)
Game Engine	Unity