

Zexin Li

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EDUCATION

- **University of Texas at Dallas** Richardson, Texas, USA
Ph.D. of Science - Computer Science; GPA: 3.79/4.00
August 2020 - Now
Courses: Databases, Machine Learning, Computer Algorithm, Computer Vision, Network Security, Real-time Systems
- **Southern University of Science and Technology** Shenzhen, China
Bachelor of Engineering - Computer Science and Technology; GPA: 3.57/4.00
July 2016 - June 2020
Courses: Operating Systems, Data Structures, Analysis Of Algorithms, Artificial Intelligence, Machine Learning, Networking, Databases

EXPERIENCE

- **University of Texas at Dallas** Richardson, TX, USA
Research Assistant
August 2020 - Now
 - **Responsibility:** Worked in Prof. Cong Liu's Real-time Systems Lab which focus on advanced research in cross-cutting research including real-time systems, software engineering, artificial intelligence.
 - **Research:** Research on boosting performance of energy-efficient real-time systems.
- **Tencent** Shanghai, China
Research Internship
May 2021 - Dec 2021
 - **Responsibility:** Worked in Tencent Youtu Lab which focus on advanced research on face recognition.
 - **Research:** Research on transferable adversarial attack on face recognition systems.
- **Kwai Inc.** Shenzhen, China
Research Internship
Nov 2019 - Jul 2020
 - **Responsibility:** Worked in Peer Content Delivery Network (PCDN) team which aims to develop and maintain PCDN system, involving technical stack: C++, C and Docker.
 - **Research:** Research on Peer Content Delivery Network (PCDN) optimization, including system-level optimization and application-level optimization.
 - **Engineering:** Updated the internal web protocol framework in PCDN backend to boost overall transmission speed of videos and decrease the retransmission ratio. Wrote tests for the backend service and deploy grey testing for over 10,000 third-party edge devices.
- **Southern University of Science and Technology** Shenzhen, China
Research Assistant (Part-time)
Jun 2018 - May 2021
 - **Responsibility:** Worked in Dr. Yuqun Zhang's Intelligent Software Engineering Lab which aims to do advanced research on software engineering and artificial intelligence.
 - **Research:** Research on detecting bugs in deep learning models for autonomous embedded systems.
 - **Research:** Research on fast task mapping of heterogeneous platforms by designing efficient algorithms.
 - **Research:** Research on transferable adversarial attacks of deep learning models.

PROJECTS

- **Real-time Systems, Software Engineering:** (Work in progress) The core objective of this research is to enhance attacking transferability on face recognition systems. This approach is able to significantly improve the attacking success rate on several publicly available datasets, and break some SOTA commercial platforms corresponding to face recognition models.
- **Real-time Systems, Software Engineering:** The main focus of this study consists of a performance optimization scheme for heterogeneous computing systems. The core objective is to optimize the performance of heterogeneous computing systems by optimizing the task scheduling policy between different computing devices. Also, a fine-grain mapping framework is designed for exploring a set of critical factors is needed for heterogeneous embedded systems. This project has been awarded Special Funds for the Cultivation of Guangdong College Students' Scientific and Technological Innovation in 2019. (JSA'21)
- **Artificial Intelligence, Software Engineering, Security:** The core objective of this study is to detect flaws in the deep neural network model-based autonomous driving system by constructing an adversarial attack sample based on the deep neural network model to cause targeted interference to the autonomous driving system. In addition, the research also involves transferring the approach from numerical simulations to real-world scenarios for empirical learning. This project has been awarded Special Funds for the Cultivation of Guangdong College Students' Scientific and Technological Innovation in 2018.

PUBLICATIONS

- **Efficient algorithms for task mapping on heterogeneous CPU/GPU platforms for fast completion time.:** Zexin Li, Yuqun Zhang*, Ao Ding, Husheng Zhou, Cong Liu (JSA'2021)

HONORS AND AWARDS

- Tencent Rhino-BirdElite Talent Training Program, Tencent - May, 2021
- Outstanding Student Scholarship - Nov, 2019
- Special Funds for the Cultivation of Guangdong College Students' Scientific and Technological Innovation - Mar, 2019
- Special Funds for the Cultivation of Guangdong College Students' Scientific and Technological Innovation - Mar, 2018