

# Zhiyi Zhang

PHD CANDIDATE · UCLA

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## Summary

Fourth-year PhD candidate in computer science at UCLA. Experience specializing in System Security in Network Protocols, Data Engineering, Internet of Things, and Information-centric Network. Interested in devising a better problem-solving method for challenging tasks, and learning new technologies and tools.

## Education

### UCLA

#### PH.D. IN COMPUTER SCIENCE

Los Angeles, CA, U.S.A

Sep. 2016 - Exp. Jun. 2021

- Supervised by Professor Lixia Zhang in the Internet Research Laboratory.
- Major fields: Network Security, Internet of Things, Information-centric Network
- Teaching Assistant of MS Course: Internet Architecture and Protocols
- Teaching Assistant of Undergraduate Course: Software Construction

### Nankai Univ.

#### BACHELOR OF ENGINEERING IN SOFTWARE ENGINEERING

Tianjin, China

Sep. 2012 - Jun. 2016

- Graduated with distinction: Outstanding Graduate Student Award in 2016
- The National Scholarship of China in 2015
- Earned GPA of 3.8/4.0

## Experience

### Internet Research Laboratory, UCLA

Los Angeles, CA, U.S.A

#### DOCTORAL RESEARCHER

Sep. 2016 - PRESENT

- Leading the effort of a NDN-based IoT Framework, which focus on **IoT with localized and designed-in security**.
- Working on a **Privacy-preserving Single Sign On** protocol with new protocol design and zero-knowledge proof.
- A Personally Identifiable Information (PII) sharing system with **reliable leaking source identification**.
- Research and Development for **Blockchain-based distributed ledger system** for Solar System.
- Designed and implemented a NDN-based **DDoS defense** system to mitigate DDoS attacks that lasts for 20 years.
- Research and Development for **Access Control Scheme** and **Certificate Management** over NDN.

### AIS team, Alibaba Group

Bellevue, WA, U.S.A

#### RESEARCH&DEVELOPMENT INTERNSHIP

Jun. 2017 - Sep. 2017

- Building **high-performance user-mode network** stack by adjusting **QUIC** to work with kernel bypass (**DPDK**)
- Evaluation of QUIC+DPDK's performance compared with TCP+TLS+HTTP/2 and DPDK+TCP+TLS+HTTP/2
- Explored new congestion control protocol (BBR) in data center network scenario

## Honors & Awards

2018	<b>ACM ICN 2018 Best Poster Award</b> , NDNoT: A Framework for Named Data Network of Things	Boston, U.S.A.
2016	<b>Outstanding Graduate Student Award</b> , 4 out of 99 in Software Engineering Department, Nankai University	Tianjin, China
2015	<b>The National Scholarship of China</b> , 0.2% among undergraduates nationwide, The Chinese Government	Tianjin, China
2015	<b>CSST Scholarship</b> , The China Scholarship Council and UCLA	Los Angeles, U.S.A
2015	<b>Honorable Mention Award</b> , Mathematical Contest in Modeling	Tianjin, China

## Skills / Strengths

### Programming languages

C; C++; Python; Java; MatLab

### Professional

Network Security; Internet of Things; Information-centric Network;