

WENYE (ALEX) ZHANG

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EDUCATION BACKGROUND

University of California, Los Angeles (UCLA) *09/2021 - 03/2023 (Expected graduation date)*

Samueli School of Engineering, Computer Science MS program

GPA: 3.93/4.0, Courses: Computer Systems Architecture(A+) Cryptographic Protocols(A), Network Protocol for Wireless(A), Network Fundamentals(A), Artificial Intelligence(A), Bioinformatics(A)

Shanghai Jiao Tong University (SJTU) *09/2016 - 06/2018*

Master of Finance, Shanghai Advanced Institute of Finance (# 1 Master of Finance Program in Asia)

GPA Ranking: #2 of 51, CFA Awareness Scholarship, Graduate Excellence Scholarship

Shanghai Jiao Tong University (SJTU) *09/2012 - 06/2016*

School of Mathematical Science, Bachelor of Science in Mathematics and Applied Mathematics

GPA: 3.93/4.3, Ranking: #2 of 80, Graduated with Honor, National Scholarship

PROFESSIONAL EXPERIENCE

Amazon

Software Development Engineer Summer Intern *06/2022 - 09/2022*

- Worked on solutions to monitor the Over The Air (OTA) process for the voice middleware in more than 1.5 million devices, designed and implemented tools to generate dashboard and alarms for OTA health metrics
- Built with Java on the back-end and integrated functionalities with the shell scripts to provide the user with command line interfaces (CLI) to create dashboard and alarms for OTA health metrics
- Integrated the tool with the voice middleware shipping pipeline to realize full automation

RECENT PROJECTS

Overcharging attacks against 5G/4G mobile devices *06/2022 - Present*

- Co-designed algorithms to launch overcharging attacks against mobile devices with ICMP manipulation and 5G/4G protocol vulnerabilities
- Wrote prototype on Android with NDK and raw socket to validate the idea under 4 major US operators

Fullstack iOS Application Development, "PupGo" *09/2021 - 02/2022*

- Developed an iOS APP for dogs dating, responsible for front-end design with swift
- Co-worked on back-end functions: accounts registration with database, dog profile validation via image recognition algorithm, individualize events exploration page via recommendation algorithm

Enhancing Open-Source Mobile Core Networks to Support NB-IoT Devices *09/2021 - 02/2022*

- Mastered the architecture of 4G/5G/NB-IoT, link-layer protocols, general procedures, and Internet interaction
- Realized CP CIoT Optimisation (Data-Over-NAS) coding in OpenAirInterface (in C language) core network
- Setup an SDR testbed with USRP B210 and sent data from AWS server to COTS NB-IoT device

Detect Security Loophole Fake 4G/5G Base Stations with Machine Learning *08/2021 - Present*

- Analyze 4G/5G fake base stations in RAN by searching for and reading literature; find new vulnerabilities
- Co-Design a machine learning algorithm that leverages packet-pair at app layer without infrastructure support
- Build and debug an Android application in Java to realize the algorithm in device; prepare for publications

SKILLS & COURSES

Programming: Java, Python, C/C++, Swift, bash, MATLAB, SQL, PHP, JavaScript

Software/Framework: Tableau, Excel, Word, PowerPoint, Access, MySQL, Spark, Web building