

Chenhao WU (Vito)

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2001 Longxiang Road, Shenzhen, Guangdong, China, 518172

EDUCATION

The Chinese University of Hong Kong, Shenzhen

Guangdong, China

Bachelor of Engineering, Major in Computer Science and Engineering, Minor in Philosophy

Expected May 2021

Coursework: Information Theory, Coding Theory, Data Compression, Fundamentals of Communication, Software Development, Computer Networking, Computer Architecture, Applications on IoT

SKILLS

- **Programming Languages:** C/C++, LLVM, Assembly, Python, Swift, Julia, LaTeX, HTML, CSS, JavaScript
- **Computer Related:** Raspberry PI, Arduino, Zigbee, Linux(kernel level), iOS Software, WeChat Mini-program, Compiler Design, Valgrind, Qt/GTK-based GUI Application, Git
- **Interpersonal Skills:** Public Speaking, Teamwork

EXPERIENCE

Shenzhen Key Laboratory of IoT Intelligent System and Wireless Network Technology

Guangdong, China

Undergraduate Research Assistant

Sep 2018 - Present

- **Smart Lamp-post:** Designed and assembled a set of IoT devices which can be installed and embedded in the street-side lampposts. The devices can form a network by using both wireless and wired connections, with capability to transmit data from node to node, such as streaming video frame captured from cameras.
- **BATS Protocol:** A multi-hop wireless network protocol to achieve low latency and less packet-loss during transmission
 - * Implemented the routing scheme and the routing table of BATS protocol.
 - * Designed and implemented the dynamic address assignment algorithms of BATS protocol.
 - * Designed and implemented the *Network Controller* module of BATS protocol, which handles the network level BATS protocol information like the network addresses and the routes.
- **Multi-hop Video Streaming:** An application that can play video streaming from cameras installed in remote devices by using a multi-hop wireless network
 - * The application supports BATS protocol and can utilize the best performance of this protocol. The latency of a 5-hop network is less than 1 second.
 - * The application has been approved and applied by the HK Smart-Lamppost Program.

CUHK(SZ) Network Coding Lab

Guangdong, China

Undergraduate Research Intern

May 2018 - Aug 2018

- **Access Point in Multi-hop Networks:** Implemented an application which can enable Wi-Fi sharing point on devices in a multi-hop network.

PROJECTS

- **Tina:** A facial-recognition based smart lock system with an audio assistant
 - Implemented the facial recognition module of the smart lock using eigen-face algorithms.
 - Implemented the audio module to recognize speech and response audibly, which allows users to communicate and interact with the smart lock system.
 - Designed the control circuit of the electronic lock and installed in the laboratory
- **Profiled-Guided Source Coding on Compiler Optimization:** A C/C++ compiler which will perform an adaptive compiler-guided data compression on memory space during run-time according to different applications and different run-time environments.
- **Data Compression based on Lexical Analysis:** Implemented a compression tool based on lexical analysis which achieves a compression rate around 19% in average.
- **Drones Routing:** A tool that can control remote drones using multi-hop network
 - Allow drones connect to a multi-hop network.
 - Load streaming video from cameras on the remote drones, and play the video on an arbitrary node in the network.
 - Control remote drones from an arbitrary node in the network.

ADDITIONAL EXPERIENCE & ACHIEVEMENTS

- Presented a multi-hop video streaming demo on *Practical Inner Codes for BATS Codes in Multi-hop Wireless Networks* at **ACM WUWNet 2018**
- Won the **Undergraduate Research Award** in the Chinese University of Hong Kong, Shenzhen
- Worked as technique manager in CUHK(SZ) Sudoku Club