

# Wei-Han Chen

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**Communications *S*ystems and *N*etworking Research Group (CoSyNe)**

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## EDUCATION

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**The Ohio State University**, Columbus, Ohio Aug. 2017 – present

*Ph.D. in Computer Science and Engineering*

*Advisor: Kannan Srinivasan Athreya*

**National Chiao Tung University**, Hsinchu, Taiwan Jan. 2016

*M.S. in Computer Science (GPA: 4.26/4.3)*

*Advisor: Jyh-Cheng Chen*

**National Chiao Tung University**, Hsinchu, Taiwan Jun. 2014

*B.S. in EECS Honors Program (GPA: 3.78/4.3)*

Exchange student at UIUC (GPA: 3.69/4.0)

## Related Courses

Computer Networks, Wireless Networks, Digital Communication, Network Programming, Network Security, 3GPP Mobile Communication Protocol, Digital Signal Processing, Stochastic Signal Processing, Database Systems, Operating Systems, Algorithms, Neural Networks

## PUBLICATIONS

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1. Ananya Mahanti, **Wei-Han Chen**, Prasun Sinha. DuoRelay: Parallel Interference Nulling using Full-duplex Relaying. (IEEE SECON 2019)
2. Yao-Yu Li, Chi-Yu Li, **Wei-Han Chen**, Chia-Jui Yeh, Kuochen Wang. Enabling seamless WiGig/WiFi handovers in tri-band wireless systems. (IEEE ICNP 2017)
3. **W.-H. Chen**, Y. Ren, J.-C. Chen. Design and Analysis of a Threshold Offloading Algorithm for LTE Femtocell/Macrocell Networks, the 21st IEEE Symposium on Computers and Communications (IEEE ISCC 2016).

## PROJECTS

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### Neural Networks (ongoing)

2019

- Building a multi-layer neural network for digit recognition.
- Developing neural network models to facilitate RF-based sensing.

### Network Programming

2015

- Remote Access System(RAS): Implemented a rsh-like shell for remote access. The sever can serve multiple users, and it supports command piping within or across lines, and input output redirection.
- Remote Working Ground(RWG): Implemented a chatroom-like system. Users can work with and talk to each other. Specifically, two server paradigms are implemented: single-process concurrent clients and concurrent connection-oriented clients with shared memory.
- Remote Batch System(RBS): Implemented a CGI web server that redirects batch files to other servers (RAS/RWG) and sends the results back to users. Non-blocking I/O is used in the CGI program to improve response time.
- SOCKS4 Server & Client: Implemented a SOCKS4 server as a proxy which redirects SOCKS4 client's request and returns the result.

### Inter-RAT Connectivity over Software Defined Network

2014 – 2015

(collaborated with Industrial Technology Research Institute, Taiwan)

- While existing data offloading schemes (LIPA, SIPTO, and IFOM) for LTE core networks can help offload data traffic in the core network, they can not offload data traffic when two UEs are under different access networks, e.g. WiFi and LTE. To this end, we proposed a new data offloading architecture exploiting software defined network.
- Our design serves as an extension to existing offloading schemes.

### Facenote: A Toy Facebook

2013

- Built a Facebook-like application on XAMPP(Apache/MariaDB/PHP/Perl).
- Users can add/delete/invite friends, create/delete clubs, post/respond/like/dislike articles, and send direct messages to each other.

### Data Mining (CS412 UIUC)

2013

- A classification framework is implemented in C++ from scratch. Specifically, two classifiers are built based on Decision Tree and Random Forest. From our dataset, boosting gives ~5% accuracy improvement.

### Network Bandwidth Saving over Bluetooth (CS439 UIUC)

2013

- In a bandwidth-limited environment, we wish to reduce the bandwidth usage for the

Internet. We designed a system to leverage Bluetooth for disseminating files to all other local clients while minimizing bandwidth consumption.

- Implemented our algorithm on Nexus 5 devices and showed its effectiveness.

## TEACHING EXPERIENCE

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### **The Ohio State University**, Columbus, Ohio

- Computer Networking and Internet Technologies (CSE3461) Autumn 2019
- Modeling and Problem Solving with Spreadsheets and Databases (CSE2111) Spring 2019

### **National Chiao Tung University**, Hsinchu, Taiwan

- Intro. to 3GPP LTE Mobile Comm. Protocol (IOE5072) Fall 2015
- Wireless Networks (IOE5016) Spring 2015

## HONORS & AWARDS

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- The Ohio State University CSE Departmental Fellowship 2017
- Best Elite Award at MobileHeros SDN Contest, Taiwan 2014
- NCTU Studying Abroad Scholarship 2013

## SKILLS

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- Programming: C/C++, MATLAB, Python, JAVA, SHELL
- Software Radio: USRP, WARP, GNURadio
- Standards: IEEE 802.11, 3GPP LTE