

# Yu-Jung Chu

YUJUNGCHU@WEBER.EDU

## HIGHLIGHTS

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- Proficient in teaching a variety of courses, including both Computer Science and Electrical Engineering curricula.
- College-level teaching experience of more than 5 years.
- Experience in designing engineering courses and labs.
- Familiar with ABET courses and evaluation.
- 6+ years of industry experience in Linux embedded systems, testing, and software design.

## EXPERIENCE

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2024-present	<b>Assistant Professor</b> <i>Weber State University</i>	Ogden, Utah
2020-2024	<b>Lecturer</b> <i>University of Iowa</i>	Iowa City, Iowa
2014-2020	<b>Teaching Assistant &amp; Research Assistant</b> <i>Oregon State University</i>	Corvallis, Oregon
	<ul style="list-style-type: none"><li>▪ WiFO project (A novel system integrating the FSO channel with the existing WiFi technology)</li><li>▪ Teaching Assistant - ECE Courses: Signals and System I / Signals and Systems II / Introduction to Probability and Random Signals / Stochastic Signals and Systems CS Courses: Introduction to Computer Networks / Data Structures / Mobile Cloud Software Development / Discrete Structures in Computer Science</li></ul>	
2016-2016	<b>Software Engineer</b> <i>EMC (<a href="http://www.emc.com">http://www.emc.com</a>)</i>	Santa Clara, California
	<ul style="list-style-type: none"><li>▪ Summer Intern: Project - Health check of DDR Machines</li></ul>	
2015-2015	<b>Software Engineer</b> <i>Kcodes Technology (<a href="http://www.kcodes.com">http://www.kcodes.com</a>)</i>	Taipei, Taiwan
	<ul style="list-style-type: none"><li>▪ Summer Intern: Developed SMB2 (SAMBA/CIFS)</li></ul>	
2009-2010	<b>Instructor</b> <i>Air Force Institute of Technology</i>	Kaohsiung, Taiwan
	<ul style="list-style-type: none"><li>▪ Taught Circuits and Signal analysis to Taiwan Air Force college students.</li></ul>	
2008-2014	<b>Software Engineer</b> <i>Kcodes Technology (<a href="http://www.kcodes.com">http://www.kcodes.com</a>)</i>	Taipei, Taiwan
	<ul style="list-style-type: none"><li>▪ Worked with third party contacts, <i>Western Digital</i>, the world's largest hard drive company, for built-in SMB functions. Responsible for software development.</li><li>▪ Leading a project with the world's third-largest thermal printer company, <i>Star Micronics (<a href="http://starmicronics.com">http://starmicronics.com</a>)</i>, to implement the firmware of a Network Interface Card.</li><li>▪ Familiar with TCP/IP, SMB(SAMBA/CIFS) and Embedded Systems.</li></ul>	
2005-2006	<b>Software Engineer</b> <i>Accton Technology (<a href="http://www.accton.com">http://www.accton.com</a>)</i>	Tainan, Taiwan
	<ul style="list-style-type: none"><li>▪ Hired due to knowledge in both software engineering and electrical engineering.</li><li>▪ Maintained platform source codes and worked on embedded systems in a Linux environment.</li></ul>	

## EDUCATION

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- 2014-2020                      **Oregon State University**                      U.S.A.  
*PhD – ECE (Electrical and Computer Engineering) minor in Computer Science (2020)*  
*MS – CS (Computer Science) (2020)*  
*MS – ECE (Electrical and Computer Engineering) (2016)*
- ECE Courses: “Linear Systems”, “Estimation, Filtering and Detection”, “Stochastic Signals and Systems”, “Digital Communications and Channel Coding”, “Wireless Communication Network”, “Contemporary Energy Application”, “Error Correcting Codes”, “Information Theory”, “Sparse Signal Proc & Learn”, “Convex Optimization”
  - CS Courses: “Computer Architecture”, “High Performance Computer Architecture”, “Natural Language Process”, “Algorithms”, “Introduction to Theory of Computation”, “Programming Language Fundamentals”
- 2006-2008                      **National Taipei University**                      Taiwan  
*Master of Science, Communication Engineering*
- Courses: “Digital Signal Processing”, “Digital Communications I”, “Digital Communications II”, “Queuing Theory”, “Detection & Estimation”, “Random Processes”, “Coding Theory”, “Advanced Coding Theory”
- 2001-2005                      **National University of Kaohsiung**                      Taiwan  
*Bachelor of Science, Electrical Engineering*

## TEACHING HISTORY

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Air Force Institute of Technology

- **Signals and Systems**
- **Circuits**

University of Iowa

- ENGR2730 **Computers in Engineering**: 2020 Fall / 2021 Spring / 2023 Spring
- ENGR2120 **Electrical Circuit**: 2023 Summer / 2024 Spring
- ECE3000 **ECE Professional Seminar**: 2022 Fall
- ECE3320 **Introduction to Digital Design**: 2021 Fall / 2022 Fall / 2023 Fall
- ECE3330 **Introduction to Software Design**: 2020 Fall / 2021 Spring / 2021 Fall
- ECE3350 **Computer Architecture and Organization**: 2022 Spring / 2023 Spring / 2024 Spring
- ECE3540 **Communication Networks**: 2022 Fall / 2023 Fall
- ECE4880 **Principle of Electrical and Computer Engineering Design**: 2021 Spring / 2021 Fall / 2022 Spring / 2023 Spring / 2023 Fall / 2024 Spring
- ECE4890 **Senior Electrical and Computer Engineering Design**: 2021 Spring / 2021 Fall / 2022 Spring / 2023 Spring / 2023 Fall / 2024 Spring
- ECE5820 **Software Engineering Languages and Tools**: 2020 Fall

Weber State University

- ECE3610 **Digital Systems**: 2024 Fall

## ACADEMIC SERVICES

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University of Iowa

- Conducting Research in Engineering Education Community of Practice: 2022 - Present
- Undergraduate Committee: AY2021-2022, AY2022-2023, AY2023-2024
- Scholarship Committee: AY2023-2024
- Engineering Success for First-Year Students: 2022 Fall, 2023 Fall
- Faculty Panel for Admitted Student Day: 2023 Spring
- Faculty Panel for the Explore Engineering: 2022 Spring
- Faculty for Prospective Student Meeting: 2022 Fall
- Faculty Meeting Secretary: AY2021-2022

## PUBLICATION & PAPERS

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- **Yu-Jung Chu**, and Thanh Nguyen, "Memory Decoding Algorithm for FSO Transmission," In *2020 IEEE 91st Vehicular Technology Conference (VTC2020-Spring)*, pp. 1-5, IEEE, 2020.
- **Yu-Jung Chu**, "Channel Estimation, Modulation Techniques and Decoding Algorithms for Hybrid WiFi-FSO (WiFO) WLAN of Femtocells," 2020.
- Thanh Nguyen, **Yu-Jung Chu**, and Thanh Nguyen, "A New Fast Algorithm for Finding Capacity of Discrete Memoryless Thresholding Channels," In *2020 International Conference on Computing, Networking and Communications (ICNC)*, pp. 56-60, IEEE, 2020.
- Spencer Liverman, Qiwei Wang, **Yu-Jung Chu**, Anindita Borah, Songtao Wang, Arun Natarajan, Alan X. Wang, and Thanh Nguyen, "WiFO: A hybrid Communication Network Based on Integrated Free-Space Optical and WiFi Femtocells," In *Computer communications*, vol. 132, pp. 74-83, 2018.
- Thanh Nguyen, **Yu-Jung Chu**, and Thanh Nguyen, "On The Capacities of Discrete Memoryless Thresholding Channels," In *2018 IEEE 87th Vehicular Technology Conference (VTC Spring)*, pp. 1-5, IEEE, 2018.
- Spencer Liverman, Qiwei Wang, **Yu-Jung Chu**, Anindita Borah, Songtao Wang, Arun Natarajan, Thanh Nguyen, and Alan X. Wang, "Indoor Communications Networks Realized through Hybrid Free-Space Optical and Wi-Fi Links," In *Broadband Access Communication Technologies XII*, vol. 10559, pp. 85-89, SPIE, 2018.
- Qiwei Wang, Spencer Liverman, **Yu-Jung Chu**, Anindita Borah, Songtao Wang, Thanh Nguyen, Arun Natarajan, and Alan X. Wang, "WiFO: A Hybrid WiFi Free-Space Optical Communication Networks of Femtocells," In *Proceedings of the 20th ACM International Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems*, pp. 35-42, 2017.
- Yang Zhang, **Yu-Jung Chu**, and Thanh Nguyen, "Coverage Algorithms for WiFO: A Hybrid FSO-WiFi Femtocell Communication sSystem," In *2017 26th International Conference on Computer Communication and Networks (ICCCN)*, pp. 1-6, IEEE, 2017.
- Spencer Liverman, Qiwei Wang, **Yu-Jung Chu**, Arun Natarajan, Thanh Nguyen, and Alan X. Wang, "Hybrid Wireless Communication Networks: Integrating Free-Space Optics and WiFi," In *Laser Science*, pp. JTh2A-56, Optica Publishing Group, 2016.
- **Yu-Jung Chu**, Thanh Nguyen, and Zachary Neil Stark, "WiFO: Hybrid WiFi and Free-Space Optical Communication System with PAM Optimal Decoding," In *2016 25th International Conference on Computer Communication and Networks (ICCCN)*, pp. 1-6, IEEE, 2016.
- **Yu-Jung Chu**, "Mobility Protocol, Channel Estimation and Modulation Techniques for Hybrid WiFi-Fso (WiFO) Wlan of Femtocells," 2016.
- Spencer Liverman, Qiwei Wang, **Yu-Jung Chu**, Thai Duong, Duong Nguyen-Huu, Songtao Wang, Thanh Nguyen, and Alan X. Wang, "Integrating Free-Space Optical Communication Links with Existing WiFi (WiFO) Network," In *Broadband Access Communication Technologies X*, vol. 9772, pp. 158-165, SPIE, 2016.
- Thai Duong, **Yu-Jung Chu**, Thanh Nguyen, and Jacob Chakareski, "Virtual Machine Placement via Q-Learning with Function Approximation," In *2015 IEEE Global Communications Conference (GLOBECOM)*, pp. 1-6, IEEE, 2015.
- Hung-Ta Pai, Yungshiang S. Han, and **Yu-Jung Chu**, "New HARQ Scheme Based on Decoding of Tail-Biting Convolutional Codes in IEEE 802.16 e," In *IEEE Transactions on Vehicular Technology*, vol. 60, no. 3, pp. 912-918, IEEE, 2011.
- **Yu-Jung Chu**, " A New Hybrid ARQ Scheme Based on Tail-Biting Codes," 2008.

## AWARDS

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- Phi Tau Phi Scholastic Honor of National Taipei University in 2008
- The Glede Award of National Taipei University: given to students with excellent and exemplary performance.