YU-JU LIN, PH.D.

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Nationality: US Citizen

Academic Background

07/2023-present	Professor, Director of Graduate Study, Columbia International University
07/2023 - present	Adjunct Professor, Charleston Southern University
07/15-07/2023	Professor, Director of Graduate Study, Charleston Southern University
08/19-07/2023	Professor, Department of Computer Science, Charleston Southern University
07/10-07/19	Associate Professor, Department of Computer and Information Sciences (later changed to Department of Computer Science), Charleston Southern University
08/04-06/10	Assistant Professor, Department of Computer and Information Sciences, Charleston Southern University
09/98-05/04	P.h.D. Degree, Department of Electrical and Computer Engineering, University of Florida

DISSERTATION

High Performance Periodic Contention Free Multiple Access Protocol for Broadband Multimedia Powerline Communications

09/97-05/98   Graduate Study, Department of Computer Science,
University of California, Riverside

09/93-06/95   M.S. Degree, Department of Information & Computer Engineering, Chung-Yuan Christian University, Taiwan

THESIS

The Study of Channel Routing Problems
09/86-06/90   B.A. Degree, Department of Mechanical Engineering, National Central University, Taiwan

Courses Taught Recently

Applied Networking

Applied Cryptography

Mobile App Development

Advanced Operating System

Advanced Algorithm

Advanced Computer Network

Advanced Network Security

Network Pen. Testing, Ethical Hacking

Special Topics in Computer Network

Courses Taught

Course	Content
Advanced Network Security	Survey of the most recent five years of Cyber Security related research
Network Pen. Testing, Ethical Hacking	Programming Language: C#, Perl, C++, Python The course covers planning, reconnaissance, scanning, exploitation, post-exploitation, and result reporting. Students will learn how system vulnerabilities can be exploited and how to avoid such problems
Applied Cryptography	Programming Language: any language Use "Network Security: PRIVATE Communication in a PUBLIC World" by Charlie Kaufman, Radia Perlman, and Mike Speciner as the text book. Discuss the various kinds of cryptography algorithm and protocols for secure communications.
Advanced Algorithm	Programming Language: C++ Discuss Advanced Algorithm Computational Complexity, NP-Completeness, Randomized Algorithm, Augmenting Data Structures, Red-Black tree, Dynamic Programming, Greedy Algorithm, Multithreaded Algorithms, Linear Programming problems…
Mobile App Development	Programming Language: Objective-C, Swift Introducing how to create applications for mobile devices in this mobile first age. The class starts with introduction to Objective-C programming language and Swift programming language then develop apps for mobile devices.
Graphical User Interface	Programming Language: C#, Visual Basic, C++ Introducing how to design Windows Applications using C# and Visual Basic.
Algorithm	Programming Language: C++ Discuss advanced data structure and algorithms. We covered Algorithm Efficiency, Skip-List, Advanced Recursion, VH Tree, AV-Tree, Skip-List, and Graph…., then we discussed NP problems.
Computer Architecture	Programming Language: Assembly, C++ Introducing RISC processor, Assembly Language, memory, I/O, digital circuits, and components. Evaluate performance measurements with different design choices.

Applied Networking	Programming Language: C++, XHTML, CSS, PHP and MySQL The goal of this class is to help students understand how to create a modern website and various application layer protocols involved in making the modern computer network.
Advanced Computer Network	*Computer Networking: A Top-down Approach Featuring the Internet*. by James F. Kurose & Keith W. Ross. as the textbook. Programming Language: C++ Introducing five layers of the Internet Protocols and performance issues in designing a protocol. Exploring how to create simple UDP, TCP client/server, Web server, instant messaging, and online gaming applications with C++. Various performance tools are introduced.
Mobile Networks	Programming Language: C++ Discuss the wireless mobile infrastructure technology and 802.11 protocols.
Operating System	Programming Language: C++ This course examines the important problems in operating system design and implementation. Issues like efficient interface between user programs and the bare hardware of the computer on which they run in developing a modern operating system are discussed.
Advanced Operating System	Programming Language: C++ This course examines the important problems in distributed operating system design and implementation, cluster systems, processes, threads, parallel scheduling management, memory management, virtual machine and distributed file system management.
Data Structure	Programming Language: C++, Java This course introduces basic data structure complements like array, pointers, stack, queue, linked lists, queue, trees and graphs and the concept of OOD. The efficiency measurement of algorithms are introduced.
Visual Basic	Programming Language: Visual Basic Introducing how to design a project from a minimum set of initial conditions, decide how the windows that the end user sees will look, determine which events the objects on the window should recognize, write the event procedures for these events, and understand an extensive project involving file management and graphical representations of data.

TEACHING ASSISTANT EXPERIENCES

Date	Course	Department	Institute
01/95-06/95	Linear Algebra	Information and Computer Engineering	Chung-Yuan Christian University
09/94-01/94	Digital Logic Design	Information and Computer Engineering	Chung-Yuan Christian University

Community Services Experiences

Preacher of various Chinese Churches in South Carolina, 2006 - Present

President of Chinese Association of Greater Charleston, 2008

Board member of Dorchester School District II Low Country Technology Academic Program, 2013, 2014

Thesis Advisor of Academic Magnetic High School, 2018, 2016

Consultant of Charleston Regional Development Alliance, 2018

Recent Academic Experiences

2023-Present, Director of Master of Art in Computer Science at Columbia International University

2023 Master of Art in Cybersecurity program accreditation by SACSCOC

2022-2023 Adjunct Professor at Columbia International University

2022 Created Master of Art in Cybersecurity for Columbia International University

2017 SECCDC, 3rd place in Service Provision, 13th place out of 35 universities over all competition

2017 Panel of Benedict College Center for Cybersecurity Second Annual Cybersecurity Symposium

2016 Mobile App Competition 1st Place.

2016 SCICU Research Grant

2016, Created ESL Summer Camp for CSU

2015-2023 Director of Graduate Study at Charleston Sothern University

2015, 2016, 2017 Charleston STEM Festival

2015, Created a Security Club

2015 CyberSeed Security Competition and stand in place 15 out of 40 university

2015 PCDC Cyber Security Competition and won 2 place

2015 SGC2015 as a Student Competition Chair

2015 Master of Science program accreditation by SACSCOC

2013-2015, Created Master of Computer Science program in Charleston Southern University

Industrial Experiences

FROM 05/03 TO 12/03   **Research and Develop Engineer**
                          Intellon Corp. R&D Department
                          5100 W SILVER SPRINGS BLVD.
                          OCALA, FL 34482

Responsibilities: HomePlug AV MAC Protocol Design and Simulation
- A member of two person team in developing HomePlug AV Protocol simulator core.
- A member of five person team in designing HomePlug AV MAC Protocol.
- Scenario designs and verifications.
- Performance measurement and analysis.
- Mathematical equations and modeling for specific problems.
- Proposed a theory of minimum MAC buffer size for silent re-transmission
- Simulate mixed TDMA and CSMA data streams on the same network.
- Resolve the problems caused by mixing TDMA and CSMA/CA protocol network.

FROM 06/02 TO 09/02   **Research and Develop Engineer**
                          Intellon Corp. R&D Department
                          5100 W SILVER SPRINGS BLVD.
                          OCALA, FL 34482

Responsibilities: Field Performance Comparisons Between 802.11b and PLC networks
- Measure 802.11b and PLC network performances of 20 houses.
- Develop shell and Matlab programs for automatically data collection
- Documentation and analysis.
- Publish measured data.

FROM 06/95 TO 07/97 Software Engineer
                          Industrial Technology Research Institute Department
                          of U300/CCL
                          Taiwan

Responsibilities: VLSI Design Automation Development
- Customize channel routing programs
- Customize placement programs
- Customize Verilog programs
- Customize Synopsis programs

Participated Projects:

1. MPEG2 – Verify Verilog codes, Synopsys simulation, use Prolog to customize XO placement and routing, Customize Cell3, Cell Ensemble

2. ADPCM – Verify Synopsys simulation, element design support, use Prolog to customize XO placement and routing, Customize Cell3, Cell Ensemble

3. FLEX IC – Support ArcCell placement and routing, use LISP to customize ArcCell placement and routing

4. 6502 CPU – Support ArcCell placement and routing, use LIDP to customize ArcCell placement and routing

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PUBLICATION ARTICALES

DeJean Dunbar, Patrick Hill, Yu-Ju Lin, SURVEY OF SECURE NETWORK PROTOCOLS: UNITED STATES RELATED DOMAINS, International Journal of Network Security & Its Applications (IJNSA) Vol. 14, No. 5, September 2022, pp. 25-38

DeJean Dunbar, Patrick Hill, Yu-Ju Lin, SURVEY OF SECURE NETWORK PROTOCOLS: UNITED STATES RELATED DOMAINS, 11th International Conference on Cryptography and Information Security (CRYPIS 2022) pp. 91-101

Patrick Hill, Yu-Ju Lin," Evaluation of Trust Worthiness of State and County Government Websites", The International Conference on Security and Management(SAM'21)

Jordan K. Manier, **Yu-Ju Lin**, Haniph A. Latchman, "Kerberos V4 Emulator for Cyber Security Training", 7th Annual - 2017 HUIC STEM/STEAM & Education Conference

Yu-Ju Lin, Sunguk Lee, Haniph A. Latchman, Byungjoo Park , "EVGATOR An Enhanced Visualization Simulator for Networking Protocol Analysis" International Journal of Software Engineering and Its Applications, Vol3, No3, 2009, pp19-32

Sunguk Lee, **Yu-Ju Lin**, and Haniph Latchman, "Performance Analysis of Recent Home Networking Technologies for High Definition Video Streaming", First International Seminar on Powerline Telecommunications - PLT/BPL/PLC, at the National University of Chimborazo in Riobamba Ecuador, Nov. 28-29, 2008

Sunguk Lee, **Yu-Ju Lin**, and Haniph Latchman "Comparative Performance Analysis of Recent Powerline and Wireless Technologies for Multimrdia Home Networking" , WM-SCI 2008, Orlando, Florida, USA. June 29th- July 2nd, 2008

Yu-Ju Lin, and H. Latchman, ``On the Effects of Maximum Transmission Unit in Power Line Communication Networks", published at ISPLC 2007

Yu-Ju Lin, Richard Newman and Haniph Latchman, "A New TCP and UDP Network Benchmark Suite",

published at the 10th Communications and Networking Simulation Symposium, March 25 - 29, 2007

Yu-Ju Lin, Sunguk Lee, Haniph A. Latchman, "VisuGATOR - A Visualization Tool for Networking Protocol Analysis", published at the IEEE International Conference on Advanced Communication Technology, Feb. 12-14, 2007

Gavin Lam, David Hampton, and **Yu-Ju Lin**, "TCP and UDP behaviors over Power Line Communication Networks", published at BigSurcs 2007

Yu-Ju Lin, and Haniph A. Latchman, "Power Line Communication" published on McGraw-Hill Encyclopedia of Science & Technology 2006

Yu-Ju Lin, Haniph Latchman, Jonathan Liu, and Richard Newman, "Periodic Contention-free Multiple Access for Broadband Multimedia Powerline Communication Networks," in proceedings of IEEE International Symposium on Power Line Communications (ISPLC 2005), Vancouver, Cananda, April 2005.

Yu-Ju Lin, Haniph A. Latchman, Jonathan C.L. Liu and Richard Newman, "Periodic Contention-Free Multiple Access For Power Line Communication Networks," IEEE 19th International Conference on Advanced Information Networking and Applications (AINA'05) Volume 2, March 28-30, 2005, Taiwan, pp. 315-318

Yu-Ju Lin, Haniph Latchman, Srinivas Katar and Richard Newman, "A Comparative Performance Study of Wireless and Power Line Networks," *IEEE Communications Magazine*, April 2003, pp. 54-63.

Yu-Ju Lin, Haniph A. Latchman, Minkyu Lee and Srinivas Katar, "*POWER LINE COMMUNICATION NETWORK INFRASTRUCTURE FOR SMART HOMES*", IEEE Wireless Communications**,** Volume 9, Issue 6, Pages: 104-111, December, 2002.

J. Wang, J. Liu and **Joseph Lin**, ``A Partition-based Parallel MPEG-2 Software Decoder", Proceedings of Joint Conference of Information Systems, Durham, North Carolina, Mar. 2002.

Yu-Ju Lin, J. Man, J. Liu and H. Latchman, ``Performance Study of VAT/RTP for Supporting VOIP", Proceedings of the 6th World Multiconference on Systematics, Cybernetics and Informatics, Orlando, Florida, Jul. 14-18, 2002.

BOOKS

Yu-Ju Lin, "Shareware! Do It Yourself", in Chinese, Drmaster Publisher, Jan, 1998, 634 pages

Yu-Ju Lin, "Windows 95 Expert", in Chinese, DrMaster Publisher, Jun 1996, 1225 pages

RECENT PROFESSIONAL ACTIVITIES

PROGRAM COMMITTEES:

2015 IEEE Smart Grid Conference Student Competition Chair
IEEE International Symposium on Powerline Communications (ISPLC) 2006

REVIEWER:

1. 2015 IEEE Smart Grid Conference
2. ETRI Journal February 2008
3. IEEE International Symposium on Powerline Communications (ISPLC) 2005, 2006, and 2007
4. BigSurcs 07
5. Journal of Zhejiang University SCIENCE A, 2007

References

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1. LeVan, Stephanie, Director of International Program, 706-979-0398, SLevan@csuniv.edu
2. O'Neil, Michael, moneill@csuniv.edu
3. Sessions, Valerie, vsessions@csuniv.edu