

JERRY (CHIA-CHENG) YEN

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RESEARCH INTERESTS

- Networks, Reinforcement Learning, IoT, Distributed Systems

EDUCATION

PhD student in Computer Science **09/2017-present**
University of California, Davis

- Current GPA: 4.0/4.0

Master of Science in Computer Science **09/2012-07/2014**

National Tsing Hua University, Hsinchu, Taiwan

- Overall GPA: 4.27/4.3 (50% Academic Average and 50% Thesis)

Bachelor of Science in Computer Science and Information Engineering **09/2008-06/2012**

Fu Jen Catholic University, Taipei, Taiwan

- Overall GPA: 3.96/4.0 (Major GPA: 4.0/4.0)
- Best Ranked 1st, Average Ranked 2nd in class

RESEARCH EXPERIENCES

Algorithms and Theory Lab (Advisor: Professor Dipak Ghosal) **09/2017-present**
University of California, Davis

- Backpressure-based Schemes for Maximizing Throughput at Multiple Intersections [3]
 - Apply the network model to schedule traffic signal controls for multiple intersections
 - Security analysis on Backpressure-based schemes

Visual Communication Lab (Advisor: Professor Jia-Shung Wang) **09/2012-07/2014**

National Tsing Hua University, Hsinchu, Taiwan

- Distributed Delivery of Videos over Ultra-dense Networks [4][6][7]
 - Deploy distributed storage using LT codes on cloud platform for popular videos
 - Evaluate distributed delivery techniques for hot videos over ultra-dense wireless environments
- Clustering Algorithm for Gene Expression Data [2]
 - Affinity propagation-based clustering algorithm for time-series gene expression data
 - Outperform other methods when the same datasets were used in the evaluation
- Data Compression in WSNs [1][5]
 - Tree-structured linear approximation with optimal RD control method for IoT Data
 - Considering the heterogeneity of sensors simultaneously using the R-D distortion allocation

PUBLICATIONS

Journal Papers

- [1] **Chia-Cheng Yen**, Chu-Ming Wang, Wan-Yane Yang, and Jia-Shung Wang, "Homogeneous and Heterogeneous IoT Data Compression using Tree-Structured Linear Approximation Approach," *IEEE Sensors Journal*, 2018, **submitted**.
- [2] Tai-Yu Chiu, Ting-Chieh Hsu, **Chia-Cheng Yen**, and Jia-Shung Wang, "Interpolation based consensus clustering for gene expression time series," *BMC Bioinformatics*.2015;16:117.

Conference Papers

- [3] **Chia-Cheng Yen**, Dipak Ghosal, Michael Zhang, Chen-Nee Chuah, and Hao Chen, "Falsified Data Attack on Backpressure-based Traffic Signal Control Algorithms," *IEEE Vehicular Networking Conference*, 2018, **submitted**.
- [4] Yi-Ting Chen, **Chia-Cheng Yen**, Yu-Tai Lin, and Jia-Shung Wang, "Cooperative Caching Plan of Popular Videos for Mobile Users by Grouping Preference," *IEEE 16th International Conference on Pervasive Intelligence and Computing (PICom)*, 2018, **accepted**.
- [5] Chu-Ming Wang, **Chia-Cheng Yen**, Wan-Yane Yang, and Jia-Shung Wang, "Tree-Structure Linear Approximation for Data Compression over WSNs," *IEEE 12th International Conference on Distributed Computing in Sensor Systems (DCOSS)*, 2016.
- [6] **Chia-Cheng Yen** and Jia-Shung Wang, "Distributed Delivery of Popular Videos over Ultra-Dense Networks," *IEEE Symposium on Computers and Communication (ISCC)*, 2015.
- [7] Hsien-Tzu Chiu, **Chia-Cheng Yen**, and Jia-Shung Wang, "A Framework of Temporal Data Retrieval for Unreliable WSNs Using Distributed Fountain Codes," *IEEE 9th International Conference on Mobile Ad-hoc and Sensor Networks (MSN)*, 2013.

WORK & TEACHING EXPERIENCES

Graduate Student Researcher, Algorithms and Theory Lab **09/2017-present**
University of California, Davis

<ul style="list-style-type: none"> Research topics including Networks, and Traffic 	
Research Assistant, <i>Advanced Network Technologies and Services Lab</i>	04/2017-08/2017
Institute of Information Science, Academia Sinica, Taiwan	
<ul style="list-style-type: none"> Research topics including Wireless Networks and Machine Learning 	
Communication and Information Private, <i>Missile Command of the General Staff</i>	10/2014-09/2015
Headquarter Departments of Ministry of National Defense R.O.C.	
<ul style="list-style-type: none"> Fulfilled compulsory military service 	
Research Assistant, <i>Visual Communication Lab</i>	09/2012-07/2014
National Tsing Hua University, Hsinchu, Taiwan	
<ul style="list-style-type: none"> Research topics including Networks, Clustering, Stereo Matching, and Data Compression Attended IEEE 9th International Conference on Mobile Ad-hoc and Sensor Networks, International Workshop on Software Defined Sensor Networks, Dalian, China, December 11-13, 2013 	
Teaching Assistant, <i>Department of Computer Science and Information Engineering</i>	09/2011-01/2012
Fu Jen Catholic University, Taipei, Taiwan	
<ul style="list-style-type: none"> Provided class tutoring for Assembly Language Assisted students with programming and examining 	

AWARDS

Academic Excellence Award (7 times)	09/2008-06/2012
<ul style="list-style-type: none"> Awarded to students with top 5% GPA for that semester Provided scholarships to students with top 5% GPA for that semester 	
Second Best Project Award, Department of Computer Science and Information Engineering, FJCU	11/2011
<ul style="list-style-type: none"> Ranked 2nd out of 27 teams 	

SELECTED TERM PROJECTS

Online Ticketing System, <i>Department of Computer Science and Information Engineering, FJCU</i>
<ul style="list-style-type: none"> Utilized Oracle to build up an online ticketing system for railway Supported multiple users for simultaneous booking
Multimedia Sharing System, <i>Department of Computer Science and Information Engineering, FJCU</i>
<ul style="list-style-type: none"> Shared movies or music with friends through MSN Utilized peer-to-peer communication and adjusted transmission rate dynamically Applied distributed streaming mechanism and circular buffer technique Awarded second place prize
Stereo Matching, <i>Visual Communication Lab</i>
<ul style="list-style-type: none"> Implemented Horizontal and Vertical Consideration on Cost Initialization Implemented Domain Transform on Cost Aggregation Improved disparity estimation method

TECHNICAL EXPERTISE

- Programing Languages: C/C++, Open CV, Java, Matlab, Python, Assembly
- Platforms: Windows, Linux