

Xianyu Chen

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EDUCATION AND EXPERIENCE

Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences *Shenzhen, China*
An Intern in Multimedia Research Center *08/2018 – 01/2019*

Sun Yat-sen University (SYSU) *Guangzhou, China*
Master of Engineering in Information and Communication Engineering *09/2015 – 07/2018*

- Overall GPA: 90.78/100, ranking 3/54 (**top 5%**)

Sun Yat-sen University (SYSU) *Guangzhou, China*
Bachelor of Engineering in Communication Engineering *09/2011 – 07/2015*

- Overall GPA: 4.02/5.00 (90.2/100), ranking 3/89 (**top 3%**)
- Major GPA: 4.52/5.00 (95.2/100), ranking 1/89 (**top 1%**)

PUBLICATION

- [J5] **X. Chen** and M. Jiang, “**Enhanced adaptive polar-linear interpolation aided channel estimation**” in *IEEE Wireless Communications Letters*, vol. 8, no. 3, pp. 693-696, Jun. 2019 (SCI, IF=3.096).
- [J4] H. Lu, L. Zhang, **X. Chen** and Z. Wu, “**Recursive carrier interferometry aided high data rate OFDM systems with PAPR suppression, phase noise rejection and carrier frequency offsets compensation**” in *IEEE Transactions on Vehicular Technology*, vol. 68, no. 4, pp. 3655 - 3671, April 2019 (SCI, IF=4.432).
- [J3] K. Wu, M. Jiang, F. She and **X. Chen**, “**Relay-aided request-aware distributed packet caching for device-to-device communication**” in *IEEE Wireless Communications Letters*, vol. 8, no. 2, pp. 217-220, Feb. 2019 (SCI, IF=3.096).
- [J2] Z. Li, M. Jiang, X. Zhang, **X. Chen** and W. Hou, “**Space-time-multiplexed multi-image visible light positioning system exploiting pseudo-Miller-coding for smart phones**” in *IEEE Transactions on Wireless Communications*, vol. 16, no. 12, pp. 8261-8274, Dec. 2017 (SCI, IF=4.951).
- [J1] **X. Chen** and M. Jiang, “**Adaptive statistical Bayesian MMSE channel estimation for visible light communication**” in *IEEE Transactions on Signal Processing*, vol. 65, no. 5, pp. 1287-1299, March, 1 2017 (SCI, IF=4.300).
- [C4] **X. Chen** and M. Jiang, “**Low-complexity adaptive channel estimation**” in *Proceedings of the 2018 IEEE 88th Vehicular Technology Conference (VTC’ 18 Fall)*, Chicago, USA, 27-30 Aug. 2018 (EI) (Oral Presentation).
- [C3] Y. Chen, M. Jiang, L. Zhang, and **X. Chen**, “**Polarity modulated complex colour shift keying for OFDM-based visible light communication**” in *Proceedings of the 2017 IEEE/CIC International Conference on Communications in China (ICCC 2017)*, Qingdao, China, 22-24 Oct. 2017 (EI) (Oral Presentation).
- [C2] Z. Li, M. Jiang, X. Zhang, **X. Chen** and W. Hou, “**Miller-coded asynchronous visible light positioning system for smart phones**” in *Proceedings of the 2017 IEEE 85th Vehicular Technology Conference (VTC’ 17 Spring)*, Sydney, Australia, 4-7 Jun. 2017 (EI) (Oral Presentation).
- [C1] **X. Chen** and M. Jiang, “**Enhanced Bayesian MMSE channel estimation for visible light communication**” 2016 *IEEE 27th Annual International Symposium on Personal, Indoor, and Mobile Radio Communications*, Valencia, 2016, pp. 1-6 (EI) (Oral Presentation).

PAPERS UNDER REVIEW

- [J2] **X. Chen** and M. Jiang, “Convex-based dimming control framework for visible light communication” to be submitted to *IEEE Journal on Selected Areas in Communications* (SCI, IF=8.085).
- [J1] Z. Lin, **X. Chen** and M. Jiang, “Enhanced polarity modulated complex CSK-OFDM system for visible light communication” to be submitted to *IEEE Transactions on Communications* (SCI, IF=4.058).
- [C1] **X. Chen**, Y. Wang and Y. Qiao, Anonymous in submission to *IEEE International Conference on Computer Vision (ICCV 2019)*, Seoul, Korea.

PATENTS

- Seven patents have been disclosed. (More details are available in the my homepage.)

RESEARCH EXPERIENCE

- ***A Continuous Low-Shot Detection Framework***
Multimedia Research Center, Shenzhen Institutes of Advanced Technology Shenzhen, China
Supervisor: Yali Wang and Yu Qiao (Professor) 08/2018 – 11/2018
 - Designed a general framework which can be deployed quickly in many different one-stage models in continuous low-shot detection scenario
 - Experimental results demonstrate that our method outperforms the recent state-of-the-art approaches
- ***Modulation Recognition for Visible Light Communication with Parameters Estimation***
Wireless Communication Laboratory, Sun Yat-sen University Guangzhou, China
Supervisor: Ming Jiang (Professor) 05/2017 – 10/2017
 - Designed an Expectation Maximization algorithm and used Newton and momentum with AdaGrad to search optimal parameters result in an accurate recognition outperforming the published methods - NN and SVM
 - Composed the paper for *IEEE Transactions on Communications* and a patent
- ***The Dimming Control of Visible Light Communication***
Wireless Communication Laboratory, Sun Yat-sen University Guangzhou, China
Supervisor: Ming Jiang (Professor) 12/2016 – 07/2017
 - Utilized convex optimization to design a dimming control framework achieving optimal waveform design and extended it into two different variants to acquire better performance
 - Designed the corresponding blind estimation algorithm for the above three methods, and based on KKT condition to deduce a closed solution for the receiver
 - Composed the paper for *IEEE Journal on Selected Areas in Communications* and a patent
- ***Visible Light Communication Channel Estimation based on Bayesian Estimation***
Wireless Communication Laboratory, Sun Yat-sen University Guangzhou, China
Supervisor: Ming Jiang (Professor) 04/2015 – 11/2016
 - Designed a parameter updating method called variable statistic window and a low complexity estimation based on geometry principle
 - Published in *IEEE Transactions on Signal Processing* and *IEEE Wireless Communications Letters*

PROJECT EXPERIENCE

- ***Generative temporal models with spatial memory*** (Remote Study)
Supervisor: Sungjin Ahn (Rutgers University) 05/2018 – 06/2018
 - Implemented an action-conditioned generative model which can use a scalable non-parametric memory - differential neural dictionary to store spatial and visual information with partially observed environments
 - Coherently memorized and performed long-term generation for hundreds of time steps in a scalable way

PROFESSIONAL SKILLS

- **Programming:** C/C++, Matlab, Python, LaTeX
- **Framework:** PyTorch, TensorFlow, Keras
- **Mathematics:** Matrix Theory, Convex Optimization, Probability Theory, Information Theory, Numerical Computation, Stochastic Processes and Introduction to Modern Mathematics

CONTEST EXPERIENCE

- **The 2nd Prize** in Undergraduate Mathematical Contest in Modeling (Leader, Top 8%) National, 2014
- **Meritorious Winner** in Mathematical Contest in Modeling (Leader, Top 15%) International, 2013
- **The 1st Prize** in Chinese Mathematics Competitions (8th in Guangdong Province) National, 2013
- **The 2nd Prize** in National Undergraduate Electronics Design Contest Provincial, 2013
- **The 3rd Prize** in Summer Camp of Undergraduate Mathematical Contest in Modeling National, 2012

AWARDS & CERTIFICATES

- National Scholarship Department of Education of China, 2013, 2017
- The 1st Prize of Outstanding Students Scholarships Sun Yat-sen University, 2013, 2014, 2015, 2016, 2017
- Outstanding Undergraduate Student Award Sun Yat-sen University, 2015
- Zhengtai Scholarship Sun Yat-sen University, 2012