Lin Zhou

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Emails:	lzhou@buaa.edu.cn (Official)
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Position:	Associate Professor, School of Cyber Science and Technology, Beihang University (BUAA)
Address:	Room 507, No. 37, Xueyuan Road, Haidian district, Beijing, China, 100037

Research Interests

- Information theory and its applications

- Space-air-ground integrated communications

- Statistical signal processing

- Physical layer security

Education

Aug. 2014 to Aug. 2018   Ph.D., Department of Electrical and Computer Engineering (ECE)
National University of Singapore (NUS), GPA: 4.92/5.0
Advisors: Prof. Vincent Y. F. Tan and Prof. Mehul Motani

Sept. 2010 to Jul. 2014   Bachelor, Department of Information Engineering
Shanghai Jiao Tong University (SJTU), GPA: 3.63/4.0

Research Experiences

Aug. 2020 to present   "Zhuobai" project, Associate Professor, School of Cyber Science and Technology, Beihang University, Beijing, China

Jan. 2019 to Aug. 2020   Research Fellow, Department of Electrical Engineering and Computer Science (EECS), University of Michigan, Ann Arbor, MI, USA
Worked with Prof. Alfred Hero on fundamental limits and practical algorithms of machine learning problems.

Sept. 2018 to Dec. 2018   Research Fellow, Department of ECE, NUS, Singapore
Worked with Prof. Vincent Y. F. Tan and Prof. Mehul Motani on fundamental limits of statistical inference and detection.

Mar. 2018 to Aug. 2018   Research Engineer, Department of ECE, NUS, Singapore
Worked with Prof. Vincent Y. F. Tan and Prof. Mehul Motani on fundamental limits of statistical inference and detection.

Preprints

3) **Lin Zhou** and Alfred Hero, "Resolution Limits of Non-Adaptive 20 Questions Search Strategies for a Moving Target", To be submitted to IEEE Transactions on Information Theory.

2) **Lin Zhou** and Alfred Hero, "Resolution Limits of Non-Adaptive 20 Questions Search for Multiple Targets", Submitted to IEEE Transactions on Information Theory in Jan. 2021.

1) **Lin Zhou**, Yun Wei and Alfred Hero, "Second-Order Asymptotically Optimal Universal Outlying Sequence Detection with Reject Option", Submitted to IEEE Transactions on Information Theory in Sept. 2020.

Journal Papers

15) **Lin Zhou** and Daming Cao, "Privacy-Utility Tradeoff for Hypothesis Testing Over A Noisy Channel", To appear in IEEE Transactions on Information Forensics and Security.

14) **Lin Zhou** and Alfred Hero, "Resolution Limits of Non-Adaptive Noisy 20 Questions Problem", IEEE Transactions on Information Theory, Vol: 67, No: 4, Pages: 2055-2073, 2021.

13) Haiyun He, **Lin Zhou** and Vincent Y. F. Tan, "Distributed Detection with Empirically Observed Statistics", IEEE Transactions on Information Theory, Vol: 66, No: 7, Pages 4349–4367, 2020.

12) **Lin Zhou**, Vincent Y. F. Tan and Mehul Motani, "Second-Order Asymptotically Optimal Statistical Classification", Information and Inference: A Journal of IMA, Volume: 9, Issue: 1, Pages: 81–111, 2020.

11) **Lin Zhou**, "Multiple Private Key Generation for Continuous Memoryless Sources with A Helper", Volume: 15, Pages: 2629–2640, IEEE Transactions on Information Forensics and Security, 2020.

10) Daming Cao, **Lin Zhou** and Vincent Y. F. Tan, "A Strong Converse Theorem for Hypothesis Testing Against Independence over a Two-Hop Network", Entropy 2019, Volume: 21, Issue: 12, Article 1171, special issue on multiuser Information Theory II.

9) **Lin Zhou** and Mehul Motani, "Non-Asymptotic Converse Bounds and Refined Asymptotics for Two Lossy Source Coding Problems", IEEE Transactions on Information Theory, Volume: 65, Issue: 10, Pages: 6414-6440, 2019.

8) **Lin Zhou**, Vincent Y. F. Tan and Mehul Motani, "Refined Asymptotics for Rate-Distortion using Gaussian Codebooks for Arbitrary Sources", IEEE Transactions on Information Theory, Volume: 65, Issue: 5, Pages: 3145–3159, 2019.

7) **Lin Zhou**, Vincent Y. F. Tan and Mehul Motani, "The Dispersion of Mismatched Joint Source-Channel Coding for Arbitrary Sources and Additive Channels", IEEE Transactions on Information Theory, Volume: 65, Issue: 4, Pages: 2234–2251, 2019.

6) **Lin Zhou**, Albrecht Wolf and Mehul Motani, "On Lossy Multi-Connectivity: Finite Blocklength Performance and Second-Order Asymptotics", IEEE Journal on Selected Areas in Communication (JSAC), Volume: 37, Issue: 4, Pages: 735–748, 2019, special issue on ultra-reliable and low-latency communication (URLLC).

5) **Lin Zhou** and Alfred Hero, "Exponential Strong Converse for Successive Refinement with Causal Decoder Side Information", Entropy 2019, Volume: 21, Issue: 4, Article 410, special issue on multiuser Information Theory II.

4) **Lin Zhou**, Vincent Y. F. Tan, Lei Yu and Mehul Motani, "Exponential Strong Converse for Content Identification with Lossy Recovery", IEEE Transactions on Information Theory, Volume: 64, Issue: 8, Pages: 5879–5897, 2018.

3) **Lin Zhou**, Vincent Y. F. Tan and Mehul Motani, "Achievable Moderate Deviations Asymptotics for Streaming Compression of Correlated Sources", IEEE Transactions on Information Theory, Volume: 64, Issue: 5, Pages: 3756–3780, 2018.

2) **Lin Zhou**, Vincent Y. F. Tan and Mehul Motani, "Second-Order and Moderate Deviation Asymptotics for Successive Refinement", IEEE Transactions on Information Theory, Volume: 63, Issue: 5, Pages: 2896–2921, 2017.

1) **Lin Zhou**, Vincent Y. F. Tan and Mehul Motani, "Discrete Lossy Gray-Wyner Revisited: Second-order Asymptotics, Large and Moderate Deviations", IEEE Transactions on Information Theory, Volume: 63, Issue: 3, Pages: 1766–1791, 2017.

Conference Papers

18) Lin Bai, Zhuangfei Wu and **Lin Zhou**, "Achievable Second-Order Asymptotics for Successive Refinement Using Gaussian Codebooks", ISIT 2021, LA, USA (Virtual).

17) **Lin Zhou** and Alfred Hero, "Achievable Resolution Limits for the Noisy Adaptive 20 Questions Problem", ISIT 2021, LA, USA (Virtual).

16) **Lin Zhou** and Alfred Hero, "Resolution Limits of Non-Adaptive 20 Questions Search for Multiple Targets", ISIT 2021, LA, USA (Virtual).

15) **Lin Zhou** and Alfred Hero, "Resolution Limits of 20 Questions Search Strategies for Moving Targets", IEEE ICASSP, Toronto, Canada, 2021 (virtual).

14) **Lin Zhou** and Alfred Hero, "Resolution Limits of Non-Adaptive Querying for Noisy 20 Questions Estimation", IEEE ISIT, Los Angeles, USA, 2020 (virtual).

13) Haiyun He, **Lin Zhou** and Vincent Y. F. Tan, "Distributed Detection with Empirically Observed Statistics", IEEE ITW, Visby, Gotland, Sweden, 2019.

12) **Lin Zhou** and Alfred Hero, "Exponential Strong Converse for Successive Refinement with Causal Decoder Side Information", IEEE ISIT, Paris, France, 2019.

11) Daming Cao, **Lin Zhou** and Vincent Y. F. Tan, "Strong Converse for Hypothesis Testing Against Independence over a Two-Hop Network", IEEE ISIT, Paris, France, 2019.

10) **Lin Zhou**, Vincent Y. F. Tan and Mehul Motani, "Second-Order Asymptotically Optimal Statistical Classification", IEEE ISIT, Paris, France, 2019.

9) **Lin Zhou**, Albrecht Wolf and Mehul Motani, "On the Finite Blocklength Performance of Lossy Multi-Connectivity", IEEE Globecom, Abu Dhabi, UAE, 2018.

8) **Lin Zhou**, Vincent Y. F. Tan and Mehul Motani, "Second-Order Asymptotics of Universal JSCC for Arbitrary Sources and Additive Channels", IEEE ISIT, Colorado, USA, 2018.

7) **Lin Zhou**, Vincent Y. F. Tan and Mehul Motani, "Second-Order Asymptotics of Rate-Distortion using Gaussian Codebooks for Arbitrary Sources", IEEE ISIT, Colorado, USA, 2018.

6) **Lin Zhou** and Mehul Motani, "On the Multiple Description Coding with One Semi-deterministic Distortion Measure", IEEE Globecom, Singapore, 2017.

5) **Lin Zhou** and Mehul Motani, "Kaspi Problem Revisited: Non-Asymptotic Converse Bound and Second-Order Asymptotics", IEEE Globecom, Singapore, 2017.

4) **Lin Zhou**, Vincent Y. F. Tan and Mehul Motani, "Strong Converse for Content Identification with Lossy Recovery", IEEE ISIT, Aachen, Germany, 2017.

3) **Lin Zhou**, Vincent Y. F. Tan and Mehul Motani, "Achievable Moderate Deviations Asymptotics for Streaming Compression of Correlated Sources", IEEE ISIT, Aachen, Germany, 2017.

2) **Lin Zhou**, Vincent Y. F. Tan and Mehul Motani, "Second-Order Coding Region for the Discrete Successive Refinement Source Coding Problem", IEEE ISIT, Barcelona, Spain, 2016.

1) **Lin Zhou**, Vincent Y. F. Tan and Mehul Motani, "Second-Order Coding Region for the Discrete Lossy Gray-Wyner Source Coding Problem", IEEE ISIT, Barcelona, Spain, 2016.

Honors & Awards

Aug. 2014 to Mar. 2018	NUS Research Scholarship
2016–2018	ISIT Student Travel Award
2013	Second Prize for Undergraduate Mathematical Contest in Modeling, Shanghai Branch Zone of China
2011, 2012, 2013	Academic Excellence Scholarship in SJTU

Invited Talks

- Information theory, inference and learning with low-latency and high reliability

  - Mar. 2020, Department of Engineering, **University of Cambridge**

- Information theory and its applications in statistical inference

- Apr. 2019, School of Statistics and Data Science, **Nankai University**
- Jan. 2020, Department of Computer Science, **Southern University of Science and Technology**

- Lossy source coding using Gaussian codebooks

  - Dec. 2019, School of Cyber Science and Technology, **Beihang University**
  - Dec. 2019, Department of Communication Science and Engineering, **Fudan University**

Professional Services

- Session chair for

  - Source coding session, ITW 2018, Guangzhou, China

- Reviewer for

  - Journals
    1) IEEE Transactions on Information Theory (TIT)
    2) IEEE Journal on Selected Areas in Information Theory (JSAIT)
    3) IEEE Journal on Selected Areas in Communications (JSAC)
    4) IEEE Journal of Selected Topics in Signal Processing (JSTSP)
    5) IEEE Transactions on Wireless Communications (TWC)
    6) IEEE Transactions on Communications (TCOM)
    7) IEEE Transactions on Signal Processing (TSP)
    8) IEEE Transactions on Cognitive Communications and Networking (TCCN)
    9) Journal of Communications and Information Networks (JCIN)
    10) IEEE Wireless Communications Magazine
    11) IEEE Communications Letter (CL)
    12) IEICE Transactions on Fundamentals of Electronics, Communications and Computer Sciences
    13) MDPI Entropy
    14) MDPI Algorithms
    15) MDPI Applied Sciences
    16) MDPI Electronics
    17) Elesvier Physical Communication
  - Conferences:
    1) International Symposium on Information Theory (ISIT) 2016-2021
    2) Information Theory Workshop (ITW) 2017-2021
    3) European Signal Processing Conference (EUSIPCO) 2019-2021
    4) Iran Workshop on Communications and Information Theory (IWCIT) 2021
    5) International Zurich Seminar (IZS) 2018
    6) International Symposium on Information Theory and its Applications (ISITA) 2018

7) International Conference on Information Theoretic Security (ICITS) 2017

8) International Conference on Communications (ICC) 2015

- Volunteer for
  - ISITA 2018, Singapore

Teaching Experience

Lecturer	Spring 2021
B3I393160 Principles of Communications	BUAA
Lecturer	Spring 2021
Introduction of Wireless Communications	BUAA
Lecturer	Winter 2020
B3J394210 Technical English	BUAA
Graduate Teaching Assistant	Winter 2015, 2016
EE2032: Signals and Communications Design Lab	NUS
Graduate Teaching Assistant	Summer 2015, 2016
EE3204: Computer and Communications Network Lab	NUS
Graduate Teaching Assistant	Winter 2016
EE3131C: Communications Systems	NUS