CURRICULUM VITAE

Guangyang Zeng

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EDUCATION

- **Ph.D.**, (Sep. 2017 – Jun. 2022)
  College of Control Science and Engineering, Zhejiang University, Hangzhou, P.R.China
  Advisor: Prof. Peng Cheng, Prof. Jiming Chen, Prof. Junfeng Wu.
  Thesis: Distributed Detection and Accurate Localization in Sensor Networks
- **B.Eng.**, (Sep. 2013 – Jun. 2017)
  College of Control Science and Engineering, Zhejiang University, Hangzhou, P.R.China
  Outstanding Graduate

WORK EXPERIENCE

- **Postdoctoral Researcher**, (Aug. 2022 – present)
  School of Data Science, The Chinese University of Hong Kong, Shenzhen, Shenzhen, P.R.China
  Advisor: Prof. Haizhou Li, Prof. Jiahu Qin, Prof. Junfeng Wu.

RESEARCH INTERESTS

Statistical inference; State estimation; Wireless sensor networks; Robot perception and localization.

AWARDS AND HONORS

- Third Prize of the 16th "Challenge Cup" Extracurricular Academic and Technological Works Competition of College Students in Zhejiang Province, Zhejiang Province, China 2019
- Outstanding Graduate, Zhejiang University, China 2017
- Second Prize of Mathematical Modeling Competition of Zhejiang University, Zhejiang University, China 2016
- Third-class Scholarship for Outstanding Students, Zhejiang University, China 2014, 2015
- First Prize of Physics Innovation Competition for College Students in Zhejiang Province, Zhejiang Province, China 2014

PROJECTS

- Research on High-precision Localization Algorithm for Industrial Site Level Inspection Robots, Open Research Project of the State Key Laboratory of Industrial Control Technology, No. ICT2023B45, Jul. 2023–Dec. 2023 (PI).
- Research on the Degradation Mechanism and Perception Positioning Method of Robot in Extreme Environments, Shenzhen Science and Technology Program, No. JCYJ20220818103000001, Jan. 2023–Dec. 2025 (participant).
- Small UAV Intrusion Detection Based on Swarm Intelligence Perception, National Natural Science Foundation of China, No. 61772467, Jan. 2018–Dec. 2021 (participant).

JOURNAL PAPERS (* Corresponding Author)

[1] **Guangyang Zeng**, Biqiang Mu, Ling Shi, Jiming Chen, and Junfeng Wu*, "Consistent and Asymptotically Efficient Localization from Range-Difference Measurements", ***IEEE Transactions on Information Theory***, vol. 70, no. 4, pp. 3032–3045, Apr. 2024.

[2] **Guangyang Zeng**, Biqiang Mu, Jiming Chen, Zhiguo Shi, and Junfeng Wu*, "Global and Asymptotically Efficient Localization from Range Measurements", ***IEEE Transactions on Signal Processing***, vol. 70, pp. 5041–5057, Aug. 2022.

[3] **Guangyang Zeng**, Biqiang Mu, Jieqiang Wei, Wing Shing Wong, and Junfeng Wu*, "Localizability with Range-Difference Measurements: Numerical Computation and Error Bound Analysis", ***IEEE/ACM Transactions on Networking***, vol. 30, no. 5, pp. 2117–2130, Apr. 2022.

[4] **Guangyang Zeng**, Xiaoqiang Ren, and Junfeng Wu*, "Low-complexity Distributed Detection with One-bit Memory Under Neyman-Pearson Criterion", ***IEEE Transactions on Control of Network Systems***, vol. 9, no. 1, pp. 2–13, Mar. 2022.

[5] **Guangyang Zeng***, Hongxu Zhao, Biqiang Mu, and Junfeng Wu, "Consistent TOA Localization Considering Sensor Position Uncertainties", ***Journal of Signal Processing***, accepted (in Chinese).

CONFERENCE PAPERS (* Corresponding Author)

[1] Hongxu Zhao, **Guangyang Zeng***, Haodong Jiang, Xiaoqiang Ren, and Junfeng Wu, "Consistent Rigid Body Localization from Range Measurements with Anchor Position Uncertainty", ***IEEE Conference on Decision and Control (CDC)***, Allianz MiCo, Italy, Dec. 2024.

[2] Yuan Fu, Zheng Zhang, **Guangyang Zeng**, Chun Liu, Junfeng Wu, and Xiaoqiang Ren, "Fast Estimation of Relative Transformation Based on Fusion of Odometry and UWB Ranging Data", ***International Conference on Guidance, Navigation and Control (ICGNC)***, Changsha, China, Aug. 2024.

[3] **Guangyang Zeng**, Shiyu Chen, Biqiang Mu, Guodong Shi, and Junfeng Wu, "CPnP: Consistent Pose Estimator for Perspective-n-Point Problem with Bias Elimination", ***IEEE International Conference on Robotics and Automation (ICRA)***, London, UK, May 2023, pp. 1940-1946.

[4] **Guangyang Zeng**, Junfeng Wu, Xiufang Shi, and Zhiguo Shi, "A Novel Decision Fusion Scheme with Feedback in Neyman-Pearson Detection Systems", ***Annual Allerton Conference on Communication, Control, and Computing (Allerton)***, Urbana-Champaign, USA, Oct. 2018, pp. 647–653.

SUBMITTED PAPERS (* Corresponding Author)

[1] **Guangyang Zeng**, Qingcheng Zeng, Xinghan Li, Biqiang Mu, Jiming Chen, Ling Shi, and Junfeng Wu*, "Consistent and Asymptotically Statistically-Efficient Solution to Camera Motion Estimation", 2024, arXiv:2403.01174, submitted to ***IEEE Transactions on Pattern Analysis and Machine Intelligence***.

[2] **Guangyang Zeng**, Biqiang Mu, Qingcheng Zeng, Yuchen Song, Chulin Dai, Guodong Shi, and Junfeng Wu*, "Optimal Camera-Robot Pose Estimation in Linear Time from Points and Lines", 2024, arXiv:2407.16151, submitted to ***The International Journal of Robotics Research***.

[3] Hongxu Zhao, **Guangyang Zeng***, Wentao Wang, Zheng Zhang, Yuan Fu, Xiaoqiang Ren, Zimin Chen, and Junfeng Wu, "Bias-Eliminated Asymptotically Efficient Pose Estimation From Range-Difference Measurements", 2024, submitted to ***IEEE Transactions on Signal Processing***.

PATENTS

[1] Junfeng Wu, Jiming Chen, Jieqiang Wei, and **Guangyang Zeng**, "Localizing a Target Device Based on Measurements from a Measurement Device Array", US invention patent, US11353541B2.

[2] Miao Li, Xingjian Wang, **Guangyang Zeng**, Zhiguo Shi, and Jiming Chen, "A Spatial Small Object Detection Method Based on Deep Learning Semantic Feature Separation", Chinese invention patent, CN116206219A (in Chinese).

[3] Junfeng Wu, Haodong Jiang, and **Guangyang Zeng**, "A Robot Pose Estimation Method Based on Ultra-wideband Wireless Range Measurement", Chinese invention patent, CN116953608A (in Chinese).

PROFESSIONAL ACTIVITIES

- 2024 IEEE/CIC International Conference on Communications in China (Signal Processing for Communications Lecture 3 Session Chair)
- 2024 IEEE/CIC International Conference on Communications in China (Frontier Applications of Array Signal Processing in Future Wireless Workshop General Co-Chair)
- IEEE Transactions on Pattern Analysis and Machine Intelligence (Reviewer)
- IEEE Transactions on Robotics (Reviewer)
- IEEE Transactions on Industrial Informatics (Reviewer)
- IEEE Transactions on Wireless Communications (Reviewer)
- IEEE/ASME Transactions on Mechatronics (Reviewer)
- IEEE Transactions on Vehicular Technology (Reviewer)
- Signal Processing (Reviewer)
- IEEE Signal Processing Letters (Reviewer)
- IEEE Robotics and Automation Letters (Reviewer)
- 2023 IEEE International Conference on Robotics and Automation (Reviewer)