

Zefu Gao

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📍 Work: University of Bologna, (Italy)

ABOUT ME

Zefu Gao earned his B.S. and M.S., both from Space Engineering University, China, in 2021 and 2023, respectively. From 2021 to 2023, he was also with the Key Laboratory of Intelligent Space TT&C and Operation, Ministry of Education, Space Engineering University, Beijing, China. He is now a PhD student in University of Bologna. He has keen research interest in measurement, communication and signal processing in 5G. He has published 16 papers as first or corresponding author with the IF accumulates to 13.5, holds four patents for inventions as first or second inventor. He has been awarded numerous prizes at high level national competitions during his undergraduate and master's degrees study.

EDUCATION AND TRAINING

PhD student in Electronics, Telecommunications, and Information Technologies Engineering

University of Bologna [01/11/2024 – 31/10/2027]

City: Bologna | Country: Italy

Master of Engineering in Electronic Information

Space Engineering University [01/09/2021 – 31/12/2023]

City: Beijing | Country: China | Field(s) of study: Digital Signal Processing; Numerical Analysis; Software Radio and Cognitive Radio Technology; Radar Signal Processing; Statistical Signal Processing; Machine Learning and Application; Information Theory | Final grade: 85.16/100 | Thesis: Research on key technologies for CEI-based tracking and measurement of non-cooperative spacecraft in high-orbit and cislunar space

Bachelor of Engineering in Measurement and Control Engineering

Space Engineering University [01/09/2017 – 30/06/2021]

City: Beijing | Country: China | Field(s) of study: Microwave Technology and Antennas; Communication Electronics; Artificial Intelligence; Fundamentals of Data Processing; Random Signal Analysis; Digital Signal Processing | Final grade: 81.82/100 | Thesis: Research and implementation of phase difference estimation algorithm for rotating phase interferometer

LANGUAGE SKILLS

Mother tongue(s): Chinese

Other language(s):

English: IELTS 7.0; CET-6 575; CATTI-2, MOHRSS, China

LISTENING B2 READING C1 WRITING C2

SPOKEN PRODUCTION B2 SPOKEN INTERACTION B2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

PUBLICATIONS

[2023]

A Measurement Method for Cislunar Spacecraft Based on Connected Element Interferometry and BeiDou-3 Interplanetary Link in Future Lunar Exploration. Gao Z, Yang W, Ma H, Teng F, Li C, Li X, Wang Y, Jiao Y. Remote Sensing. 2023; 15(15):3744. SCI: 001046802200001, **JCR Q1, IF=5**

A SOM-CNN algorithm for NLOS signal identification. GAO, Z. F., Tao, H. C., Zhu, Q. Y., Jiao, Y. W., Li, D., MAO, F. L., ... & Wang, Y. X. IEICE Transactions on Communications. 106(2), 117-132, 2023. SCI: 000990005900003, **JCR Q4, IF= 0.7**

[2024]
A frequency estimation algorithm for high precision monitoring of significant space targets. GAO, Ze FU, Wen GE YANG, and Yi WEN JIAO. IEICE transactions on Fundamentals of Electronics Communications and Computer Sciences. Vol.E107-A,No.7,pp.-,Jul. 2024. SCI, **JCR Q4, IF= 0.7**

[2023]
A Method for UWB Localization Based on CNN-SVM and Hybrid Locating Algorithm. Gao Z, Jiao Y, Yang W, Li X, Wang Y. Information. 2023; 14(1):46. Information 14, no. 1: 46. 2023. ESCI: 000919781500001, **EI: 20230513454623.**

[2024]
A high-performance antenna array signal processing method in deep space communication. JIAO, Yi WEN, Ze FU GAO*(corresponding), and Wen GE YANG. IEICE Transactions on Fundamentals of Electronics, Communications and Computer Sciences. Vol.E107-A,No.7,pp.-,Jul. 2024. SCI, **JCR Q4, IF= 0.7**

[2023]
A CEI-Based Method for Precise Tracking and Measurement of LEO Satellites in Future Mega-Constellation Missions. Zhang E, Wu T, Hu M, Yang W, Ma H, Jiao Y, Shi X, **Gao Z*(corresponding)**. A CEI-Based Method for Precise Tracking and Measurement of LEO Satellites in Future Mega-Constellation Missions. Electronics. 2023; 12(16):3385. S CI: 001055715900001, **JCR Q2, IF=2.9**

[2023]
Grassland Health in Xilin Gol League from the Perspective of Machine Learning—Analysis of Grazing Intensity on Grassland Sustainability. Gao Z, Zhu Q, Tao H, Jiao Y. Grassland Health in Xilin Gol League from the Perspective of Machine Learning—Analysis of Grazing Intensity on Grassland Sustainability. Sustainability. 2023; 15(4):3398. SCI: 000941499800001, **JCR Q2, IF=3.9**

[2022]
Multiphase Parallel Demodulation for Remote Sensing Satellite Data Transmission—Filter Bank Based on WOLA Structure F. Teng, Y. Jiao, W. Yang, J. Yan, **Z. Gao** and Z. Lu. IEEE JSTARS, vol. 15, pp. 9556-9565, 2022. **JCR Q1**

CONFERENCES AND SEMINARS

[04/12/2022 – 08/12/2022] Rio de Janeiro, Brazil

A high-precision frequency estimation method for CEI signals of high-orbit satellites. Z. Gao et al., GLOBECOM 2022 - 2022 IEEE Global Communications Conference, pp. 3156-3161. **SCI: 000922633503032, EI: 20230513464442.**

[19/07/2022 – 22/07/2022] Shenzhen, China

A novel algorithm for accurate UWB positioning based on CNN and hybrid locating method. Z. F. Gao et al. 2022 International Symposium on Networks, Computers and Communications (ISNCC), 2022, pp. 1-8. **EI: 20223612694637**

[15/10/2021 – 17/10/2021] Xi'an, China

Design of direction finding system of rotating multi-baseline phase interferometer based on GPU and DDS. ITNEC 2021 Z. Gao, Y. Jiao, D. Li, C. Li, F. Mao and Y. Wu. 2021 IEEE 5th Information Technology, Networking, Electronic and Automation Control Conference (ITNEC), 2021, pp. 268-273. **EI:20214711192809.**

HONOURS AND AWARDS

[08/2021] Chinese Institute of Electronics, the Chinese Society for Degree and Postgraduate Education

First Prize of the National Final of the 16th China Graduate Student Electronic Design Competition "Mega Innovation Cup"

[31/12/2023] Ministry of Education, China Society for Degree and Postgraduate Education

First Prize of "Huawei Cup" Twentieth China Graduate Student Mathematical Modeling Competition

[12/2020] Chinese Mathematical Society

First Prize of the Twelfth National University Student Mathematics Competition

[07/2020] Chinese Life Science Society

First Prize in the Final of the 2020 National Challenge of Mathematical Ability in Higher Education Institutions

[31/12/2022] Ministry of Education, China Society for Degree and Postgraduate Education

Second Prize of "Huawei Cup" Nineteenth China Graduate Student Mathematical Modeling Competition

[31/12/2021] Ministry of Education, China Society for Degree and Postgraduate Education

Second Prize of "Huawei Cup" Eighteenth China Graduate Student Mathematical Modeling Competition

[11/2019] Chinese Mathematical Society

Second Prize of the 11th National University Student Mathematics Competition

[08/2023] Ministry of Education, China Society for Degree and Postgraduate Education

Third Prize of "Huawei Cup" The Fifth China Graduate Student Artificial Intelligence Innovation Competition,

[04/2020] COMAP (the Consortium for Mathematics and Its Applications, USA)

Honorable Mention in 2020 Mathematical Contest In Modeling(MCM)