

# Ruichen Zhou | CV

Wuhan, Hubei – China

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📄 <https://www.researchgate.net/profile/Ruichen-Zhou-2>

## Education

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### University of Chinese Academy of Sciences

Beijing

*Ph.D. student in Surveying and Mapping, Tutor: Haoming Yan, Researcher*

2024–Present

### Shandong University of Science and Technology

Qingdao

*Master of Surveying and Mapping Engineering, Tutor: Jinyun Guo, Prof*

2021–2024

**thesis:** *Inversion research of marine vertical gravity gradient based on satellite altimetry*

### Linyi University

Linyi

*Bachelor of Surveying and Mapping Engineering, Tutor: Fucheng Song, Assoc. Prof*

2017–2021

**thesis:** *Accuracy analysis and evaluation of GPS broadcast ephemeris*

## Publications

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**2024:** Zhou, R., Guo, J., Ya, S., Sun, H., & Liu, X. (2024). SDUST2023VGGA (V1.0) [Data set]. Zenodo. <https://doi.org/10.5281/zenodo.14177000>

**2024:** Zhou, R., Liu, X., Guo, J., Hwang, C., Jia, Y., Chang, X., & Sun, H. (2024). Inverting vertical gravity anomaly gradients using multidirectional data from mean sea surface model: A case of Arabian Sea. *Earth, Planets and Space*, 234(2). doi:10.1186/s40623-024-02105-5 (Accept)

**2023:** Zhou, R., Liu, X., Li, Z., Sun, Y., Yuan, J., Guo, J., & Ardalan, A. (2023). On performance of vertical gravity gradient determined from CryoSat-2 altimeter data over Arabian Sea. *Geophysical Journal International*, 234(2), 1519-1529. doi:10.1093/gji/ggad153

**2021:** Linyi University. (2021). *GNSS Ephemeris Calculation Software [Abbreviated: Ephemeris Calculation Software] V1.0*. Software copyright registration number: 7188955. Registration number: 2021SR0466329.

**2020:** Song, F., Shi, S., Shi, Y., & Zhou, R. (2020). Analysis of ionospheric TEC disturbance caused by Typhoon Lekima based on IGS data. *Global Positioning System*, 45(3), 83-88. doi:10.13442/j.gnss.1008-9268.2020.03.015

**N.D.:** Zhou, R., Guo, J., Ya, S., Sun, H., and Liu, X. (n.d.). SDUST2023VGGA: A Global Ocean vertical gradient of gravity anomaly model determined from multidirectional data from mean sea surface. *Submitted*.

## Skills

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**Programming:** Python, MATLAB, C Sharp, R ,  $\LaTeX$ , SQL

**Tools:** Git, Docker, WinForms, GMT, Illustrator, ArcGIS

**Statistical Analysis:** Regression Analysis, Time Series Analysis, Multivariate Analysis

**Data Processing:** Satellite Altimetry, Machine Learning Models, Signal Processing

## Programs

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**NSFC Project, Waveform Reprocessing for Coastal Satellite Altimetry Using Singular Spectrum Analysis** *Researcher*

Contributed to waveform reprocessing for coastal satellite altimetry using singular spectrum analysis, improving the precision of vertical gravity gradient inversion and refining geophysical data modeling.

**NSFC Major Project, Fine Modeling of Global Seabed Topography for Gravity Field Applications** *Researcher*

Contributed to the fine modeling of global seabed topography, improving gravity field models and enhancing the understanding of oceanic and tectonic processes.

**NSFC Project, New Method for All-Weather Measurement of Vertical Line Deviation Using 3D Laser Tracking Technology** *Researcher*

Contributed to the development of a novel method for all-weather measurement of vertical line deviation using 3D laser tracking technology, improving the accuracy and efficiency of geospatial measurements.

**Graduate research innovation project, Inversion of ocean vertical gradient of gravity anomalies using mean sea surface model** *Leader*

Improvement of methods for inverting vertical gradient of gravity anomalies using the grid-based mean sea surface, and developed strategies for constructing global vertical gradient of gravity models based on satellite altimetry data.

**Graduate research innovation project, Inversion of ocean vertical gradient of gravity anomalies using satellite altimetry data** *Leader*

Conducted research on the inversion of vertical gravity gradient anomalies using satellite altimetry along-track sea surface height, focusing on the calculation of grid-based deflection of the vertical and vertical gradient of gravity anomaly methods.

## Interests

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Deep learning applications in satellite data processing, geodesy, and hydrology.