

Xianran Zhang

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✧ EDUCATION

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- ✓ **Nanjing University | Nanjing, China** **09/2019 – 06/2022**
Master Student, Geographic Information Science, GPA:4.50/5.0, Ranking in Major:17/46
 - ✓ **Nanjing University | Nanjing, China** **09/2015 – 06/2019**
Undergraduate Student, Geographic Information Science, GPA:4.24/5.0, Ranking in Major:8/25

✧ RESEARCH INTERESTS

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- ✓ 3D GIS development, OpenSceneGraph and osgEarth Development, OpenGL Development
 - ✓ Remote Sensing Image Analysis, Computer Vision

✧ JOB INTENTION

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- ✓ Engineer of GIS development, Engineer of OpenGL/3D development
 - ✓ Engineer of Computer Vision, AI Algorithm Researcher

✧ WORK EXPERIENCES

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- ✓ **Assistant Engineer| Nanjing Research Institute of Electronics Engineering** **09/2019 – 06/2022**
Develop 3D GIS with OpenScencGraph and osgEarth.

✧ PROJECT EXPERIENCES

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- ✓ **Design and development of 3D geographic information system platform** **08/2023 – 08/2024**
In response to the urgent need for a geospatial platform for multiple projects, a 3D geographic information system display platform was developed based on OpenScencGraph and osgEarth. The total number of lines of code exceeds 10,000, providing functions such as digital earth display, geographic data loading, layer classification control display, static and dynamic image display, and 3D special effect display. All functions provide secondary development services, have good scalability and reusability, and have generated great economic value.
 - ✓ **Design and development of 2D and 3D integrated plug-in services** **01/2023 – 08/2023**
In order to solve the problem of low efficiency of code sending on the business side, a set of 2D and 3D integrated plug-in services was designed and developed based on QtPlugin and ctk Plugin Framework, which can automatically send the display to the 2D and 3D display platform according to the system operation status by providing an interface to the outside world, thus improving the simplicity and readability of the code sending on the business side and enhancing the flexibility and configurability of the system.
 - ✓ **Construction and application of geographic information data server** **08/2022 – 01/2023**
In response to the low utilization rate of massive geographic data and the continuous increase in transmission costs, a high-performance geographic information data server was built based on GeoServer, Tomcat and Nginx, which can publish vector, raster, elevation and other geographic data 24 hours a day, greatly improving the utilization rate of geographic databases and reducing data transmission costs.

✧ ACADEMIC EXPERIENCES

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- ✓ **Research on Qinhuai River Basin Health** **03/2017 - 12/2018**
Project: Innovation Training Program for College Students in Jiangsu Province

Introduction: Water quality data, land use data and socio-economic data were used to calculate the Water Surface Rate, Water Quality Comprehensive Index and Green Space Coverage Rate, Shannon's Diversity Index, Growth Rate of Agricultural and Forestry Output Value and Water Consumption per Ten Thousand yuan of GDP, respectively, so as to make a comprehensive evaluation of river health in Qinhuai River Basin, supervised by Professor Youpeng Xu of School of Geographic and Oceanographic Science in Nanjing University

Personal Work: Responsible for dividing the study area and calculating the Green Space Coverage Rate and Shannon's Diversity Index from the land use data. Firstly, the study area was divided into 10 small watersheds through administrative division boundaries in ArcGIS. Secondly, land use data were overlayed with the divided 10 small watersheds in ArcGIS to calculate the Green Space Coverage Rate. Finally, fragstats was used to calculate the Shannon's Diversity Index of each watershed

✓ **Research on the Spatio-temporal Pattern of Global Urban Heat Island** **09/2018 - 02/2019**

Project: Produce Practice of Undergraduate Students

Intriduction: With Google Earth Engine (GEE) for computing platform, auxiliary platform based on ArcGIS/Python, using MODIS temperature/vegetation index/land cover product data, coding to achieve the filter of the world's 11848 cities/the calculation of urban heat island intensity/ the linear regression between vegetation index and surface temperature, and on the basis of calculation results, I analyzed the Spatio-temporal Pattern between the urban heat island intensity and surface temperature/vegetation index of 18 years data in the worldwide, and then I wrote a report, supervised by Professor Wenfeng Zhan of School of Geographic and Oceanographic Science in Nanjing University

Personal Work: The project was completed by myself

✧ AWARDS AND HONORS

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- ✓ 01/2025 | **Excellent Newcomer(1/10)** | Nanjing Research Institute of Electronics Engineering
 - ✓ 04/2024 | **Outstanding Communist Youth League Member(1/10)** | Nanjing Research Institute of Electronics Engineering
 - ✓ 12/2020 | **Outstanding Postgraduate** | Nanjing University
 - ✓ 04/2019 | **Outstanding Graduate** | Nanjing University
 - ✓ 12/2018 | **The 7th National College Students GIS Application Skills Competition Second Prize** | China Geographical Association
 - ✓ 10/2018 | **Outstanding Student** | Nanjing University
 - ✓ 09/2018 | **Second Prize of People's Scholarship(3/25, RMB 2000)** | Nanjing University
 - ✓ 09/2018 | **Excellence Award in the 10th College Students Knowledge Contest of Jiangsu Province (science and engineering group)** | Institute of Jiangsu Province Higher Education
 - ✓ 09/2018 | **Peer Mentor of 2018 Students** | Nanjing University
 - ✓ 06/2018 | **Outstanding Communist Youth League Cadre** | Nanjing University
 - ✓ 10/2017 | **Zhoudafu Scholarship(3/25, RMB 5000) & Zhoudafu Campus Elite** | Nanjing University
 - ✓ 06/2017 | **Excellent League Member** | Nanjing University
 - ✓ 12/2016 | **Tangzhongying Scholarship (12/38, RMB 4000)** | Nanjing University
 - ✓ 11/2016 | **Social Practice Excellent Team in 2016** | Nanjing University
 - ✓ 10/2016 | **Third Prize of People's Scholarship(12/38, RMB 800)** | Nanjing University

✧ PRACTICE EXPERIENCES

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- ✓ 08/2017 - 06/2018 | **Assistant of Undergraduate Administration Office** | School of Geographic and Oceanographic Science, Nanjing University
 - ✓ 09/2015 - 06/2016 | **GIS Class Monitor** | School of Geographic and Oceanographic Science, Nanjing University

✧ KNOWLEDGE AND SKILLS

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- ✓ **Language:** Chinese(native), English(fluent): CET-4(491)/CET-6(509)
 - ✓ **Software:** ArcGIS/ENVI/GEE/eCognition/MATLAB/GitHub/Visual Studio/Microsoft Office/Photoshop/Premiere/Audition
 - ✓ **Programming:** C/C++/C#/Python/HTML/OpenSceneGraph/osgEarth

REFERENCES ON REQUEST

Updated: June 3, 2025

Xianran Zhang