

# SONG JIAN

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🏠 <https://jtrneo.github.io>

## Education

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<b>The University of Tokyo</b> <i>Ph.D. Candidate in Engineering</i> <ul style="list-style-type: none"><li>– Major: Complexity Science and Engineering</li><li>– Research Topic: Synthetic data-driven 3D semantic reconstruction in remote sensing</li></ul>	<b>Oct. 2021 – Present</b> <i>Chiba, Japan</i>
<b>Waseda University</b> <i>Master of Engineering</i> <ul style="list-style-type: none"><li>– Major: Information Engineering</li><li>– Research Topic: Flow-guided video object detection</li></ul>	<b>Oct. 2019 – Mar. 2021</b> <i>Fukuoka, Japan</i>
<b>Wuhan University</b> <i>Master of Engineering</i> <ul style="list-style-type: none"><li>– Major: Software Engineering</li><li>– Research Topic: Remote sensing image semantic segmentation</li></ul>	<b>Sep. 2018 – Jun. 2021</b> <i>Wuhan, China</i>
<b>Fujian Agriculture and Forestry University</b> <i>Bachelor of Agriculture</i> <ul style="list-style-type: none"><li>– Major: Forestry Information Engineering</li></ul>	<b>Sep. 2011 – Jun. 2015</b> <i>Fuzhou, China</i>

## Employment History

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<b>The University of Tokyo</b> <i>Research Assistant</i> <ul style="list-style-type: none"><li>– Supervisor: Prof. Naoto Yokoya</li></ul>	<b>Oct. 2021 – May 2024</b> <i>Tokyo, Japan</i>
<b>RIKEN AIP</b> <i>Research Part-timer</i> <ul style="list-style-type: none"><li>– Supervisor: Prof. Naoto Yokoya</li></ul>	<b>Apr. 2021 – Present</b> <i>Tokyo, Japan</i>
<b>Inception Institute of Artificial Intelligence</b> <i>Research Intern</i> <ul style="list-style-type: none"><li>– Supervisor: Dr. Fan Zhu</li></ul>	<b>Mar. 2019 – Aug. 2019</b> <i>Abu Dhabi, UAE</i>
<b>Land Satellite Remote Sensing Application Center</b> <i>Research Intern</i> <ul style="list-style-type: none"><li>– Supervisor: Dr. Yuhang Gan</li></ul>	<b>May 2018 – Sep. 2018</b> <i>Beijing, China</i>

## Awards

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<b>AY2024 AI Center Fusion Research Promotion Fund</b> <i>1,600,000 JPY</i>	<b>Dec. 2023</b>
<b>SPRING GX Self-directed and Integrated Project Research</b> <i>250,000 JPY</i>	<b>Jul. 2024</b>
<b>SPRING GX Fellowship</b> <i>180,000 JPY per month</i>	<b>Apr. 2024</b>
<b>AY2023 AI Center Fusion Research Promotion Fund</b> <i>2,000,000 JPY</i>	<b>Dec. 2023</b>
<b>AY2023 GSFS Challenging New Area Doctoral Research Grant</b> <i>600,000 JPY</i>	<b>Mar. 2023</b>
<b>AY2020 JEES–SoftBank AI Scholarship</b> <i>1,000,000 JPY</i>	<b>Feb. 2020</b>
<b>Kitakyushu Science and Research Park Scholarship</b> <i>300,000 JPY</i>	<b>Sep. 2019</b>

## Publications (\* denotes equal contribution)

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### 4.1 Journal Articles

- H. Chen\*, **J. Song\***, C. Han, J. Xia, and N. Yokoya, “ChangeMamba: Remote Sensing Change Detection With a Spatiotemporal State Space Model,” *IEEE Transactions on Geoscience and Remote Sensing*, vol. 62, pp. 1–20, 2024. (ESI hot paper & ESI highly cited paper) [Link]
- C. Broni-Bediako, J. Xia, **J. Song**, H. Chen, M. Siam, and N. Yokoya, “Generalized Few-Shot Semantic Segmentation in Remote Sensing: Challenge and Benchmark,” *IEEE Geoscience and Remote Sensing Letters*, pp. 1–5, 2024. [Link]
- H. Chen, C. Lan, **J. Song**, C. Broni-Bediako, J. Xia, and N. Yokoya, “ObjFormer: Learning Land-Cover Changes From Paired OSM Data and Optical High-Resolution Imagery via Object-Guided Transformer,” *IEEE Transactions on Geoscience and Remote Sensing*, vol. 62, pp. 1–22, 2024. [Link]
- X. Shao, H. Chen, K. Magson, J. Wang, **J. Song**, J. Chen, and J. Sasaki, “Deep Learning for Multi-Label Classification of Coral Conditions in the Indo-Pacific via Underwater Photogrammetry,” *Aquatic Conservation: Marine and Freshwater Ecosystems*, vol. 34, no. 9, pp. e4241, 2024. (Front cover article) [Link]
- H. Chen, **J. Song**, C. Wu, B. Du, and N. Yokoya, “Exchange Means Change: An Unsupervised Single-Temporal Change Detection Framework Based on Intra- and Inter-Image Patch Exchange,” *ISPRS Journal of Photogrammetry and Remote Sensing*, vol. 206, pp. 87–105, 2023. [Link]

### 4.2 Conference Papers

- **J. Song**, H. Chen, W. Xuan, J. Xia, and N. Yokoya, “SynRS3D: A Synthetic Dataset for Global 3D Semantic Understanding from Monocular Remote Sensing Imagery,” *Thirty-Eighth Annual Conference on Neural Information Processing Systems (NeurIPS)*, 2024. (Spotlight) [Link]
- N. Yokoya, J. Xia, C. Broni-Bediako, **J. Song**, H. Chen, “OpenEarthMap Benchmark Suite and Its Applications,” *IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, 2024. (Oral) [Link]
- H. Chen, **J. Song**, and N. Yokoya, “Change Detection Between Optical Remote Sensing Imagery and Map Data via Segment Anything Model (SAM),” *IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, 2024. (Oral) [Link]
- **J. Song**, H. Chen, and N. Yokoya, “SyntheWorld: A Large-Scale Synthetic Dataset for Land Cover Mapping and Building Change Detection,” *IEEE/CVF Winter Conference on Applications of Computer Vision (WACV)*, 2024. [Link]
- **J. Song**, B. Adriano, and N. Yokoya, “Disaster Detection from SAR Images with Different Off-Nadir Angles Using Unsupervised Image Translation,” *2nd CDCEO Workshop at IJCAI*, 2022. [Link]

## Academic Services

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- Reviewer: IEEE Transactions on Geoscience and Remote Sensing (TGRS)
- Reviewer: ISPRS Journal of Photogrammetry and Remote Sensing
- Reviewer: IEEE/CVF Conference on Computer Vision and Pattern Recognition Workshops (CVPRW)
- Reviewer: IEEE Access
- Co-organizer: OpenEarthMap Land Cover Mapping Few-Shot Challenge at L3D-IVU CVPR 2024 Workshop [Link]