

Yiyu Ni

PhD Student

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EDUCATION

Jun. 2021 –

Ph.D. Program (Earth and Space Sciences), University of Washington
Advisor: Marine Denolle

Seattle, WA

Sept. 2016 – Dec. 2020

B.Sc. in Geophysics (Geo-exploration Science and Technology), Jilin University

Changchun, China

RESEARCH INTERESTS

High-performance Seismology, Distributed Acoustic Sensing, Machine Learning, Cloud Computing

PUBLICATION

- Ni, Y., Hutko, A., Skene, F., Denolle, M., Malone, S., Bodin, P., Hartog, R., & Wright, A. (2023). Curated Pacific Northwest AI-ready Seismic Dataset. *Seismica*, 2(1).
- Ni Y., Denolle M.A., Fatland R., Alterman N., Lipovsky B.P., Knuth F. (2023). An Object Storage for Distributed Acoustic Sensing. *Seismological Research Letters*, **accepted**.

Co-author

- Krauss, Z., Ni, Y., Henderson, S., & Denolle, M. (2023). Seismology in the cloud: guidance for the individual researcher. *Seismica*, 2(2).
- Yuan C., Ni Y., Lin Y., Denolle M.A., Better Together: Ensemble Learning for Earthquake Detection and Phase Picking. *IEEE Transactions on Geoscience and Remote Sensing*.

INVITED TALK

- Data Science Seminar at University of Washington, Apr. 2023

PROFESSIONAL SERVICE

- Duty Seismologist at Pacific Northwest Seismic Network, 2022 –

TEACHING/MENTOR EXPERIENCE

- ESS 314: Geophysics, University of Washington, Teaching Assistant and Lab Instructor, Fall 2023
- SCEC High Performance Seismology CyberTraining, Teaching Assistant and Tutorial Lead, May 2023
- Capstone Project of Information School, University of Washington, 2023

FIELD EXPERIENCE

- Cascadia 2021: nodal seismometer (ZLand) deployment and retrieval, Tillamook, OR, 2022
- DAS setup and deployment, Homer, AK, 2023

VISITING EXPERIENCE

- Research Assistant at Nanjing University, Nanjing, China, Dec. 2022 – May. 2023
- Student Intern at Harvard University, Cambridge, MA, Jul. – Sept. 2019

AWARDS AND HONORS

- Robert and Mary Alice Crosson Endowed Graduate Student Support Fund, 2022
- Best Oral Presentation, APGSC & SEG, 2021
- Excellent Undergraduate at Jilin University, 2020

CONFERENCE PRESENTATIONS

Talks

- **Ni Y.**, Hutko A., Hartog R., Malone S., Denolle M.A., A New Machine Learning Earthquake Catalog for the Pacific Northwest, *AGU Fall Meeting 2022*, Chicago, IL
- **Ni Y.** and Li J., Adjoint seismic waveform inversion based on SPECFEM, *Asia-Pacific Geophysics Student Conference 2020*, Hefei, China

Posters

- **Ni Y.**, Hutko A., Skene F., Hartog R., Denolle M.A., Malone S., Wright A., A Curated Pacific Northwest Seismic Dataset, *SSA Annual Meeting 2023*, San Juan, Puerto Rico
- **Ni Y.**, Denolle M.A., Alterman N., Fatland R., Lipovsky B., Knuth F., An Open-source Object Storage for Distributed Acoustic Sensing, *SAGE-GAGE Community Workshop 2023*, Pasadena, CA
- **Ni Y.**, Pan S., Kutz J.N., Lipovsky B., Denolle M.A., Neural Implicit Compact Representation Compress Distributed Acoustic Sensing Data, *AGU Fall Meeting 2022*, Chicago, IL
- **Ni Y.**, Pan S., Kutz J.N., Lipovsky B., Denolle M.A., Implicit Neural Compact Representation to Compress Distributed Acoustic Sensing Data, *SCEC Annual Meeting 2022*, Palm Spring, CA
- **Ni Y.**, Pan S., Kutz J.N., Lipovsky B., Denolle M.A., Implicit Neural Compact Representation of the OOI DAS Data, *Northeast Pacific OOI Workshop*, Portland, OR
- **Ni Y.**, Denolle M.A., Data-Discovery the Earth GeoDynamical Systems in the Pacific Northwest, *SSA Annual Meeting 2022*, Bellevue, WA
- **Ni Y.**, Denolle M.A., Data-Discovery the Earth GeoDynamical Systems in the Pacific Northwest, *UW AI Institute in Dynamic Systems Launch Event*, Seattle, WA
- **Ni Y.**, Denolle M.A., Swinski J.P., Cloud-Optimized ASDF-H5 for Seismology, *AGU Fall Meeting 2021*, New Orleans, LA

Co-author Posters

- Denolle, M. A., Gabriel, A., Wang, Y., **Ni, Y.**, Yuan, C., Iturrieta, P. C., Bayona, J. A., Silva, F., Su, M., Maechling, P. J., Callaghan, S., Fatland, R., Alterman, N., Wolf, S., Schliwa, N., May, D. A., Wang, C., Tape, C., & Chow, B. High-Performance Seismology CyberTraining (HPS) 2023: Data Science and HPC. *SCEC Annual Meeting 2023*, Palm Spring, CA
- Denolle M.A., Wang Y., Tape C., **Ni Y.**, Waldhauser F., Bozdog E., A Cloud Ecosystem for Data and Software Developed by SCOPED, *SSA Annual Meeting 2023*, San Juan, Puerto Rico
- Krauss Z., **Ni Y.**, Henderson S., Denolle M.A., Wang I., Constructing Cloud Resources for the Individual Researcher from the Ground Up: An Example of Earthquake Detection in the Cloud, *SSA Annual Meeting 2023*, San Juan, Puerto Rico
- Yuan C., **Ni Y.**, Lin Y., Denolle M. A., Ensemble Learning for Earthquake Detection and Phase Picking: Methodology and Application, *SSA Annual Meeting 2023*, San Juan, Puerto Rico

- Skene F., Smoczyk N., Hutko A., **Ni Y.**, Denolle M.A., Seismically Derived Flow Velocities of Surface Mass Wasting Events in the Cascades 2001-2021, *AGU Fall Meeting 2022*, Chicago, IL
- Smoczyk N., Hutko A., **Ni Y.**, Skene F., Denolle M.A., Expanding and Fingerprinting a Repeating Earthquake Catalog on the Cascades Volcanoes, *AGU Fall Meeting 2022*, Chicago, IL
- Lipovsky B., Manos J.M., **Ni Y.**, Denolle M.A., Bodin P., Winebrenner D.P., Hollberg L., Zumberge M.A., Distributed Acoustic Sensing in the Puget Sound and Puget Lowlands, Washington, USA, *AGU Fall Meeting 2022*, Chicago, IL
- Denolle M.A., Tape C., Bozdog E., Waldhauser F., Wang Y., **Ni Y.**, Orsvuran R., Ciardelli C., The beginnings of SCOPED: Seismic COmputational Platform for Empowering Discovery, *AGU Fall Meeting 2021*, New Orleans, LA