

# Curriculum Vitae Nico Lang

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## Research experience

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03/2025 –	Assistant Professor - Computer Vision and Machine Learning for Earth Observation Data - Department of Computer Science (DIKU), University of Copenhagen, Global Wetland Center & affiliated with the Pioneer Centre for AI
09/2022 – 03/2025	Postdoc - DIKU, University of Copenhagen, Pioneer Centre for AI
02/2018 – 05/2022	PhD research assistant - Photogrammetry and Remote Sensing, ETH Zürich
03/2013 – 10/2017	Student researcher (part-time) - Photogrammetry and Remote Sensing, ETH Zürich
02/2015 – 04/2015	Internship - Computer Vision R&D, LOGITECH UPICTO GmbH
10/2014 – 01/2015	Internship - Computer Vision R&D, upicto GmbH (spin-off ETH Zürich)

## Academic degrees

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05/2022	Doctor of Sciences, Faculty Photogrammetry and Remote Sensing, ETH Zürich
09/2017	Master of Science in Geomatics, ETH Zürich
08/2014	Bachelor of Science in Geomatik und Planung, ETH Zürich

## Scientific focus areas

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Deep learning; Remote sensing; Computer vision; Machine learning for environmental monitoring; Global vegetation structure mapping; Open-world recognition; Uncertainty quantification; Fine-grained recognition

## Supervisor functions

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Co-supervised 11 master's and bachelor's theses. Co-advised 8 PhD students.

## Teaching experience

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09/2025	Lecturer - OpenGeoHub summer school “Data Science for Earth Observation” (Wageningen)
07/2024	Organizer and Lecturer - PhD summer course “SSL4EO-2024: Self-Supervised Learning for Earth Observation” (University of Copenhagen)
02/2018 – 05/2022	Teaching assistant - Photogrammetry and Remote Sensing group (ETH Zürich)
03/2013 – 09/2017	Teaching assistant at ETH Zürich
08/2010 – 08/2017	Teaching Volleyball (J+S school sport) at several schools in Switzerland

## Tutorials on “Deep Learning for Geospatial Data Analysis”

09/2019	Practical tutorial, ECML/PKDD Summer School (EPSS19) in Würzburg, Germany.
06/2019	Lecture and practical tutorial, ISPRS Geospatial week in Enschede, Netherlands.
01/2019	Practical tutorial, 1st Swiss “Workshop on ML for Environmental and Geosciences” (MLEG2019) in Zürich, Switzerland.
01/2018	Practical tutorial, ISPRS Technical Commission II Symposium 2018 in Riva, Italy.

## Selected professional activities

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2025 –	Area Chair for CVPR 2026
2025 –	Workshop organizer: “AICC: Workshop on AI for Climate and Conservation” at EurIPS
2025 –	Workshop organizer: “Advances in Representation Learning for Earth Observation (REO)” at EurIPS
2025 –	Program Committee (Keynotes) of the Nordic AI Meet 2025.
2025 –	Co-director of the P1 program on AI for Climate & Conservation
2025 –	Coordinator <i>Climate &amp; Conservation at the Pioneer Centre for AI</i>
2025 –	Core team member of the <i>Climate AI Nordics network</i>
2024	Workshop organizer <i>Visipedia workshop 2024 Copenhagen</i>

- 2024 Organizer of the *PhD summer course SSL4EO-2024: Self-Supervised Learning for Earth Observation, University of Copenhagen*
- 2023 – Workshop organizer (main point of contact) of *FGVC10, FGVC11, FGVC12: Fine-grained Visual Categorization workshop at CVPR*
- 2023 Drummer in the *CVPR 2023 house band in Vancouver*.
- 2019 – Reviewer for: *CVPR, ECCV, ICCV, TPAMI, RSE, ISPRS, Nature Comms. Env., Global Change Biology, NLDL, CVPR FGVC workshop, NeurIPS CompSust-2023 workshop, ICCV Joint workshop on marine vision, AI in Science Summit 2025, EurIPS AICC workshop, EurIPS REO workshop*

## Academic services

- 2026 External examiner of the PhD thesis by Yuchang Jiang at University of Zurich.
- 2025 Reviewer of the PhD project proposal by Claire Robin at Wageningen University: ‘Machine Learning Methods for Vegetation Forecasting Task’.

## Talks

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- Fusing Remote Sensing Data Across Sensors and Time**
- 2025 Seminar talk at Wageningen University & Research hosted by Prof. Ioannis Athanasiadis
- Learning From Global Earth Observation Data**
- 2025 Keynote at OpenGeoHub summer school “Data Science for Earth observation” in Wageningen
- 2025 QIM Workshop on Challenges in analysis of large image data at SCIA2025, Reykjavik
- 2024 IIRS winter school “BigAI for BigGIS”
- 2024 LifeCLEF2024 workshop
- 2024 Allen Institute for AI (AI2) - Environmental seminar series
- 2024 Danish Hydraulic Institute (DHI) - seminar talk
- MMEarth: Multi-Modal Pretext Tasks For Geospatial Representation Learning**
- 2025 D3A conference session “From Pixels to Products: CV in Danish Research & Industry”
- 2025 Nordic Workshop on AI for Climate Change
- 2025 ESA-NASA International Workshop on AI Foundation Model for EO
- Global vegetation monitoring with probabilistic deep learning**
- 2023 RISE Learning Machines Seminars
- 2023 AI for Good
- 2023 PhD NOVA course on “Deep learning in forest remote sensing”
- 2022 ML4RS: Machine learning for remote sensing reading group
- Forest canopy height mapping at global scale by fusing Sentinel-2 and GEDI**
- 2022 ESA Living planet symposium
- Global vegetation height mapping with deep ensembles**
- 2022 Alan Turing Institute - seminar talk
- High carbon stock mapping at large scale**
- 2022 Google Geo for Good - lightning talk
- Towards global high-resolution biomass maps: machine vision at large scale**
- 2021 ESA Φ-Lab - seminar talk
- 2021 High carbon stock approach (HCSA) Largescale Working Group
- Machine Learning for Environmental Sciences**
- 2019 WSIS Forum Workshop on “How to automate analysis of aerial data in the context of Aid & Development”

## Panel discussions

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- 2025 “Nordic-Alan Turing Institute AI Research Workshop”, Oslo
- 2025 OpenGeoHub summer school “GeoAI - Dos and don’ts”, Wageningen
- 2025 D3A conference session “From Pixels to Products: CV in Danish Research & Industry”, Nyborg
- 2024 *ML for Remote Sensing workshop ICLR2024*, “Beyond Benchmarks: ML for the Planet”, Vienna

## Awards

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- 2023 The Culmann Prize (ETH Zürich) - recognizes outstanding doctoral theses

2023 CVPR 2023 Outstanding Reviewer  
 2019 The U.V. Helava Award, Best paper 2018 ISPRS Journal of Photogrammetry & Remote Sensing

## Selected news media

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For a complete list please refer to my personal website.

2022 German national TV ARD quiz show: Wer Weiss Denn Sowas  
 2022 Swiss national TV SRF news “10 vor 10”: Living Planet Symposium mit Schweizer Beteiligung.  
 2022 NASA: Scientists Show How Forests Measure Up  
 2022 NVIDIA: Neural Network Generates Global Tree Height Map, Reveals Carbon Stock Potential  
 2022 ETH Zürich: Neural network can read tree heights from satellite images  
 2021 SRF1 Swiss national radio live radio interview: Die Vermessung der Wälder  
 2021 Mongabay: Chocolate giant funds high resolution carbon map to protect forests  
 2020 ETH Zürich Industry Relations: A global tool against deforestation

## Bibliography overview

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Author of 18 peer-reviewed journal and conference articles. For a comprehensive list, please visit my Google scholar profile or consider the separate list of publications.

### Ten selected publications

- [1] Yuyan Chen, **Lang, Nico**, B. Christian Schmidt, Aditya Jain, Yves Basset, Sara Beery, Maxim Larrivée, and David Rolnick. “Open-Insect: Benchmarking Open-Set Recognition of Novel Species in Biodiversity Monitoring”. In: *NeurIPS Datasets and Benchmarks Track*. 2025.
- [2] Vésteinn Snæbjarnarson, Kevin Du, Niklas Stoeck, Serge Belongie, Ryan Cotterell, **Lang, Nico**, and Stella Frank. “Taxonomy-Aware Evaluation of Vision-Language Models”. In: *CVPR*. 2025.
- [3] Vishal Nedungadi, Ankit Kariryaa, Stefan Oehmcke, Serge Belongie, Christian Igel, and **Lang, Nico**. “MMEarth: Exploring multi-modal pretext tasks for geospatial representation learning”. In: *ECCV*. 2024.
- [4] **Nico Lang**, Vésteinn Snæbjarnarson, Elijah Cole, Oisín Mac Aodha, Christian Igel, and Serge Belongie. “From coarse to fine-grained open-set recognition”. In: *CVPR*. 2024.
- [5] Bingchen Zhao, **Lang, Nico**, Serge Belongie, and Oisín Mac Aodha. “Labeled Data Selection for Category Discovery”. In: *ECCV*. 2024.
- [6] Nikolai Kalischek, **Lang, Nico**, Cécile Renier, Rodrigo Caye Daudt, Thomas Addoah, William Thompson, Wilma J Blaser-Hart, Rachael Garrett, Konrad Schindler, and Jan D Wegner. “Cocoa plantations are associated with deforestation in Côte d’Ivoire and Ghana”. In: *Nature Food* (2023).
- [7] Siyu Liu, Martin Brandt, Thomas Nord-Larsen, Jerome Chave, Florian Reiner, **Lang, Nico**, Xiaoye Tong, Philippe Ciais, Christian Igel, Adrian Pascual, et al. “The overlooked contribution of trees outside forests to tree cover and woody biomass across Europe”. In: *Science Advances* (2023).
- [8] **Nico Lang**, Walter Jetz, Konrad Schindler, and Jan Dirk Wegner. “A high-resolution canopy height model of the Earth”. In: *Nature Ecology & Evolution* (2023).
- [9] **Nico Lang**, Nikolai Kalischek, John Armston, Konrad Schindler, Ralph Dubayah, and Jan Dirk Wegner. “Global canopy height regression and uncertainty estimation from GEDI LIDAR waveforms with deep ensembles”. In: *Remote sensing of environment* (2022).
- [10] **Nico Lang**, Andrea Irniger, Agnieszka Rozniak, Roni Hunziker, Jan Dirk Wegner, and Konrad Schindler. “GRAINet: mapping grain size distributions in river beds from UAV images with convolutional neural networks”. In: *Hydrology and Earth System Sciences Discussions* (2020).

## Funding awarded (Total: ≈\$115K)

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2025 DDSA - Small event grant for the AICC EurIPS workshop, \$7600 (DKK 49,235).  
 2025 Pioneer Centre for AI - P1 program on AI for Climate & Conservation, \$7700 (DKK 50,000)  
 2025 Google DeepMind - Sponsorship for the FGVC12 workshop at CVPR with Serge Belongie and Christine Kaeser-Chen, \$5000  
 2025 Pioneer Centre for AI - Research assistant 4 months (part-time), \$10,500 (in-kind)  
 Project: Neural Implicit Fields for Multi-Image Super-Resolution  
 2024 Pioneer Centre for AI - Part-time research assistant 2 months, \$1,250 (in-kind)  
 Project: MMEarth-Bench: Global Environmental Tasks for Multimodal Geospatial Models  
 2024 University of Copenhagen - SSL4EO-2024 PhD summer course with Stefan Oehmcke, Ankit Kariryaa, Christian Igel, \$6800

2023	Pioneer Centre for AI - Research assistant 6 Months, \$39,500 (in-kind) Project: MMEarth: Exploring Multi-Modal Pretext Tasks For Geospatial Representation Learning
2023	University of Copenhagen and University of Edinburgh (UoE) - Strategic Partnership seed-fund with Serge Belongie, Oisín Mac Aodha, Stella Frank, \$17,700 Financed the Visipedia workshop 2024 and my 3-weeks research visit at UoE in April 2024.
2021	Amazon - Cloud computing credits with Peter Gehler, Jan Dirk Wegner \$20,000 Project: A high-resolution canopy height model of the Earth
2018	ETH Global - Travel grant to represent ETH at the Clinton Global Initiative University meeting in Chicago, with Andrés C Rodríguez, \$2,000
2016	Degen Stiftung (ETH Zürich) - Travel award for summer research visit at Caltech (USA), \$1,150

## Selected Mentorships

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2024 –	<b>PhD student at University of Agder and The Norwegian Mapping Authority</b> Co-supervising Sander Riisøen Jyhne during his one-year research visit at the University of Copenhagen. Together we are working on implicit neural representations for multi-image super-resolution. A ML conference submission is under review.
2024 –	<b>Graduate student at Harvard &amp; University of Copenhagen</b> Co-supervising Lucia Gordon supervised by Andrew Davies (Harvard). Since her summer visit at the Pioneer Centre for AI in 2024, Lucia became an official member of our research group in Copenhagen. As a follow-up of the MMEarth project, we are working on the MMEarth-Bench project to benchmark EO foundation models on global environmental downstream task with limited and biased training data. A ML conference submission is under review.
2024 –	<b>Graduate student at McGill University and Mila Quebec AI Institute</b> Co-advising Yuyan Chen together with David Rolnick (McGill) and Sara Beery (MIT) working on benchmarking open-set recognition and category discovery for insect monitoring. The first paper resulting from this collaboration was published at NeurIPS 2025.
2023 –	<b>PhD student at University of Copenhagen</b> Co-advising Hui Zhang at together with Christian Igel. Hui is working on an extension of my PhD research towards mapping the full vertical vegetation structure. I have listed her for a named two-year postdoc position in the RECLAIM proposal (under review at NordForsk, starting in early 2026).
2024 –	<b>Research Assistant at the Pioneer Centre for AI</b> Supervised Vishal Nedungadi as a research assistant after his master, working on the MMEarth project for 6 months at the Pioneer Centre for AI, which was published at ECCV 2024. I mentored Vishal during the application for PhD positions. Co-advising Vishal in his PhD research at Wageningen University & Research.
2023 – 2025	<b>Caltech SURF undergrad</b> Supervised Avirath Sundaresan during a summer research visit as a SURF fellow. Mentored Avirath during weekly meetings together with Sara Beery (MIT) working on animal re-identification.
2023 – 2024	<b>Bachelor students at University of Copenhagen</b> Co-supervised Philip Enevoldsen and Christian Gundersen during their Bachelor thesis. Mentored them beyond their thesis to present at the ICCV 2023 workshop OOD-CV and the NLDL 2025 conference leading to a publication in PMLR proceedings, supported by a DDSA travel grant.

## Languages

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German (mother tongue), English

## References

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**Serge Belongie**

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**Christian Igel**

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**Ralph Dubayah**

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Professor of Geographical Sciences  
NASA GEDI Principal Investigator  
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**Sara Beery**

Massachusetts Institute of Technology  
Homer A. Burnell Career Development Professor  
Co-lead Global Center on AI and Biodiversity Change  
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**Oisin Mac Aodha**

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Reader (Associate Professor) in Machine Learning  
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