Curriculum Vitae — Nico Lang

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Research experience

03/2025–	**Assistant Professor** — Computer Vision and Machine Learning for Earth Observation, *Department of Computer Science (DIKU), University of Copenhagen; Global Wetland Center; Pioneer Centre for AI*
09/2022–03/2025	**Postdoctoral Researcher**, *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**, *Photogrammetry and Remote Sensing, ETH Zürich*
02/2015–04/2015	**Intern**, *LOGITECH UPICTO GmbH*
10/2014–01/2015	**Intern**, *upicto GmbH (ETH spin-off)*

Academic degrees

05/2022	Doctor of Sciences, *ETH Zürich*
09/2017	MSc in Geomatics, *ETH Zürich*
08/2014	BSc in Geomatik und Planung, *ETH Zürich*

Scientific focus areas

Computer vision; Deep learning; Machine learning; Remote sensing; Earth observation; Environmental monitoring; Global vegetation structure mapping; Representation learning; Self-supervised learning, Open-world recognition; Uncertainty quantification; Fine-grained recognition

Supervisor functions

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

Teaching experience

09/2025	**Lecturer**, *OpenGeoHub Summer School "Data Science for EO"*, Wageningen
07/2024	**Lecturer**, *SSL4EO-2024 PhD Summer Course, University of Copenhagen*
02/2018–05/2022	**Teaching Assistant**, *Photogrammetry and Remote Sensing, ETH Zürich*
03/2013–09/2017	**Teaching Assistant**, *ETH Zürich*
08/2010–08/2017	**Volleyball Instructor**, *J+S School Sport*, Switzerland

Tutorials on "Deep Learning for Geospatial Data Analysis"

09/2019	Tutorial, *ECML/PKDD Summer School (EPSS19)*, Würzburg
06/2019	Lecture & Tutorial, *ISPRS Geospatial Week*, Enschede
01/2019	Tutorial, *Workshop on ML for Environmental and Geosciences (MLEG2019)*, Zürich
01/2018	Tutorial, *ISPRS TC II Symposium, Riva*

Selected professional activities

2025–	**Area Chair** for CVPR 2026
2025–	**Organizer** *AICC: Workshop on AI for Climate and Conservation, EurIPS*
2025–	**Organizer** *Advances in Representation Learning for Earth Observation (REO), EurIPS*
2025–	**Program Committee** (Keynotes) *Nordic AI Meet 2025*
2025–	**Co-director** *P1 program on AI for Climate & Conservation*
2025–	**Coordinator** *Climate & Conservation at the Pioneer Centre for AI*
2025–	**Core team member** *Climate AI Nordics network*
2024	Workshop organizer *Visipedia workshop 2024*, Copenhagen
2024	**Organizer** *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, CVPR*
2023	Drummer in the *CVPR 2023 house band*, Vancouver

Academic services

2019– **Reviewer** *CVPR* [**Outstanding reviewer 2023**], *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*

2026 **External examiner** PhD thesis by Yuchang Jiang, *University of Zurich*

2025 **Reviewer** PhD proposal by Claire Robin, *Wageningen University & Research*

Talks

Fusing Remote Sensing Data Across Sensors and Time

2025 Seminar talk *Wageningen University & Research*, Wageningen

Learning From Global Earth Observation Data

2025 Keynote *OpenGeoHub summer school "Data Science for Earth observation"*, Wageningen

2025 Keynote *QIM Workshop on "Challenges in analysis of large image data", SCIA2025*, Reykjavík

2024 Invited talk *Winter school "BigAI for BigGIS", Indian Institute of Remote Sensing*, Webinar

2024 Invited talk *Workshop LifeCLEF2024, Grenoble*

2024 Seminar talk *Allen Institute for AI (AI2)*, Seattle

2024 Seminar talk *Danish Hydraulic Institute (DHI)*, Hørsholm

MMEarth: Multi-Modal Pretext Tasks For Geospatial Representation Learning

2025 Invited talk *"From Pixels to Products: CV in Danish Research & Industry", D3A*, Nyborg

2025 Invited talk *Nordic Workshop on AI for Climate Change*, Gothenburg

2025 Talk *ESA-NASA International Workshop on AI Foundation Model for EO*, Frascati

Global vegetation monitoring with probabilistic deep learning

2023 Invited talk *RISE Learning Machines Seminars*, Lund

2023 Invited talk *AI for Good*, Webinar

2023 Keynote *PhD course on "Deep learning in forest remote sensing"*, Ås

2022 Invited talk *ML4RS: Machine learning for remote sensing reading group*, Webinar

Forest canopy height mapping at global scale by fusing Sentinel-2 and GEDI

2022 Talk *ESA Living planet symposium*, Bonn

Global vegetation height mapping with deep ensembles

2022 Seminar talk *Alan Turing Institute*, Webinar

High carbon stock mapping at large scale

2022 Lightning talk *Google Geo for Good*, Webinar

Towards global high-resolution biomass maps: machine vision at large scale

2021 Seminar talk *ESA Φ-Lab*, Webinar

2021 Invited talk *High carbon stock approach (HCSA) Largescale Working Group*, Webinar

Machine Learning for Environmental Sciences

2019 Invited talk *WSIS Forum Workshop "Analysis of aerial data for Aid & Development"*, Geneva

Panel discussions

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"*, Nyborg

2024 *ICLR 2024 workshop ML for Remote Sensing, "Beyond Benchmarks: ML for the Planet"*, Vienna

Awards

2023 Culmann Prize (Outstanding doctoral thesis, ETH Zürich)

2023 CVPR Outstanding Reviewer

2019 U.V. Helava Award (Best Paper, ISPRS Journal)

Selected news media

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 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

Author of 18 peer-reviewed journal and conference articles. See Google Scholar or the separate publication list.

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*. [**Spotlight**]. 2025.

[2] Vésteinn Snæbjarnarson, Kevin Du, Niklas Stoehr, 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, Oisin 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 Oisin 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)

2025 *Danish Data Science Academy* - Small event grant for the AICC EurIPS workshop, $7600.
2025 *Pioneer Centre for AI* - P1 program on AI for Climate & Conservation, $7700
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, Oisin 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

2024- **PhD student (University of Agder & The Norwegian Mapping Authority)** 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. Conference submission under review.

2024- **Graduate student (Harvard & University of Copenhagen)** Co-supervising Lucia Gordon (with Andrew Davies, Harvard) since her summer visit at the Pioneer Centre for AI in 2024. As a follow-up of the MMEarth project, we are working on the MMEarth-Bench project. Conference submission is under review.

2024- **Graduate student (McGill University & Mila Quebec AI Institute)** Co-advising Yuyan Chen (with David Rolnick, McGill & Sara Beery, MIT) working on benchmarking open-set recognition and category discovery for insect monitoring. Publication at NeurIPS 2025, Spotlight.

2023- **PhD student (University of Copenhagen)** 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- **Research Assistant (Pioneer Centre for AI)** 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 **SURF undergrad (Caltech)** 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 **Bachelor students (University of Copenhagen)** 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

German (native), English (fluent)

References

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Director, Pioneer Centre for AI
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