

Alex Levering

POSTDOCTORAL RESEARCHER AT VRIJE UNIVERSITEIT AMSTERDAM

Hilversum, the Netherlands

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Professional Experience

Vrije Universiteit Amsterdam

ASSISTANT PROFESSOR

Studying socio-cultural landscape qualities and interactions using GIS, remote sensing, and artificial intelligence

Amsterdam, the Netherlands

09/2024 - present

Hong Kong University of Science and Technology (Guangzhou)

ADJUNCT ASSISTANT PROFESSOR

Assisting in teaching and guest lectures, seminars, and collaborations with students & staff

Guangzhou, China

01/2025 - present

Vrije Universiteit Amsterdam

POSTDOCTORAL RESEARCHER

Semantically-explicit building change detection for understanding urban development using remote sensing images

Amsterdam, the Netherlands

11/2023 - 09/2024

Antea Group

ADVISOR DATA & INFORMATION

Deventer, the Netherlands

01/2019 - 08/2019

IHS, Erasmus University

FREELANCE GIS CONSULTANT & LECTURER

Rotterdam, the Netherlands

2013-2019

Deltares

BASC THESIS INTERN

Delft, the Netherlands

02/2016 - 07/2016

IHS, Erasmus University

INTERN URBAN ECONOMICS RESEARCHER

Delft, the Netherlands

02/2015 - 07/2015

Education

Wageningen University & Research

PHD CANDIDATE, *cum laude*

- Advisors: Prof. Devis Tuia & Dr. Diego Marcos
- Thesis: *Landscape quality assessments using deep learning*

Wageningen, the Netherlands

09/2019 - 01/2024

Ecole Polytechnique Fédérale de Lausanne (EPFL)

VISITING STUDENT

- Advisor: Prof. Devis Tuia
- Monitoring liveability in the Netherlands through optical remote sensing

Sion, Switzerland

06/2023 - 09/2023

University of Washington in St. Louis

VISITING STUDENT

- Advisor: Prof. Nathan Jacobs
- Assessing how vision-language AI models can improve the prediction efficiency of landscape qualities

St. Louis, United States

11/2022 - 05/2023

Wageningen University & Research

Wageningen, the Netherlands

MSc GEO-INFORMATION SCIENCE AND REMOTE SENSING, *cum laude*

09/2016 - 01/2019

- Specialization in spatial data analytics (geo-scripting, machine-learning, advanced remote sensing)
- Thesis advisors: Prof. Martin Tomko & Prof. Devis Tuia
- thesis: *Detecting Physical Incidents Relating to Road Networks from Street-Level Imagery* - *summa cum laude*

University of Melbourne

Melbourne, Australia

VISITING STUDENT

02/2018 - 09/2018

- Advisor: Prof. Martin Tomko
- Researching the prediction of objects obstructing the driving surfaces for the robustness of self-driving vehicles

HZ University of Applied Sciences

Utrecht, the Netherlands

BASc DELTA MANAGEMENT

09/2012 - 07/2016

- Water management degree with a focus on process & project management
- Minor in geo-information sciences at Wageningen University & Research
- Thesis advisor: Dr. Joost Stronkhorst
- Thesis: *Coastal Erosion Detection using the Coastal Hazard Wheel Methodology* - *summa cum laude*

Awards

- 2024 **Cum laude recognition of PhD thesis (top 3%),** Wageningen University
- 2019 **Summa cum laude recognition of MSc thesis,** Wageningen University
- 2016 **HZ Stern for best BASc thesis of academic year,** HZ University of Applied Sciences
- Summa cum laude recognition of BASc thesis,** HZ University of Applied Sciences

Teaching Experience

Current activities

UNIGIS MSc programme coordinator, VU Amsterdam, 2025-present

Post-graduate MSc programme coordinator, facilitating student study progress

0.2 FTE

Climate Data Science (MSc), VU Amsterdam

Teaching an introduction to deep learning for geospatial sciences

1 ECTS

Big Data in Sustainability Science (MSc), VU Amsterdam, 2024-present

Course co-coordinator and lecturer, geospatial programming

2.5 ECTS

Methods of Environment and Resource Management (MSc), VU Amsterdam, 2024-present

Course coordinator, and teaching a MSc-level introduction module to spatial analysis

6 ECTS

Research Project Global Environmental Change & Policy (MSc), VU Amsterdam

Teaching parts of a MSc-level course on academic proposal writing

1.2 ECTS

2023

Advanced Spatial Analysis (MSc), VU Amsterdam

MSc-level course on programming and spatial data analysis, where I assisted in practicals and grading.

10 hours

2020-2022

Machine Learning FTE-35306 (BSc/MSc), Wageningen University

BSc/MSc Intro to machine learning class, where I assisted in practicals and grading.

10 hours yearly

2019

Remote Sensing & Python Programming (MSc), *IHS Erasmus University*

Externally hired for MSc-level lectures on remote sensing and programming.

15 hours

2015-2019

Introduction to GIS (MSc), *IHS Erasmus University*

Externally hired for a variety of introductory GIS classes, such as ArcGIS and QGIS lectures and practicals.

9 hours yearly

Mentoring

PhD students

Jakob Langenbacher, *VU Amsterdam, 2024-current*

Re-wilding European forests

Co-promotor

Zheyu Zhang, *VU Amsterdam, 2025-current*

Building an urban model for African cities

Co-promotor

Alina Cherkas, *VU Amsterdam, 2025-current*

Deep learning solutions for SDG 11

Co-promotor

MSc & BSc students

Vrije Universiteit Amsterdam, *2024-present*

Supervised a total of 13 students across 4 programmes (MSc ERM, MSc AI, MSc GECP, BSc AED) on GIS, AI, and computer vision topics

Wageningen University, *2021-2023*

Supervised 3 MSc GIS students total on remote sensing and computer vision topics

Skills

LANGUAGES

Dutch: native language

English: fluent (**C2**, TOEFL: 118/120)

German: conversational

Notions of French and Mandarin Chinese

PROGRAMMING

Python: Primary language, 12 years of experience

Analytics: PyTorch (Lightning), NumPy, scikit-learn, (Geo)Pandas, GDAL, RasterIO

JavaScript: Infrequent user, 1 year of experience

Linux / Bash: 10 years of low-intensity use

R: 10 years of infrequent use

GIS: ArcGIS Desktop, QGIS, PostGIS

Databases: MySQL, PostgreSQL

Design: ~~TeX~~, HTML, CSS, GIMP, Inkscape, Illustrator, Lightroom

Outreach & Professional Development

SERVICE AND OUTREACH

- 2024-2025 **VU Amsterdam UNIGIS programme**, Programme committee member
- 2016-2018 **Wageningen University MGI programme**, Programme committee member
- 2017-2018 **Wageningen University MGI MSc programme**, Daily board member
- 2013-2015 **HZ Delta Management BASc programme**, Programme committee member

PEER REVIEW I review mainly for technical remote sensing and geo-information science journals and conferences, among which *Remote Sensing of Environment* (RSE), the ISPRS Journal of Photogrammetry and Remote Sensing, IEEE Transactions on Geoscience and Remote Sensing (TGRS), the International Geoscience and Remote Sensing Symposium (IGARSS), and the Computer Vision and Pattern Recognition (CVPR) EarthVision workshop. I also review topically-suitable papers on urban studies, such as liveability and walkability, in relevant journals.

Publications

JOURNAL AND FULL-LENGTH CONFERENCE PAPERS

- Levering, A.**, Marcos, D., Jacobs, N., Tuia, D., 2024. *Prompt-guided and multimodal landscape scenicness assessments with vision-language models*. PLOS ONE.
- Obadic, I., **Levering, A.**, Pennig, L., Oliveira, D., Marcos, D., Zhu, XX., 2024. *Contrastive Pretraining for Visual Concept Explanations of Socioeconomic Outcomes*. Computer Vision and Pattern Recognition Conference (CVPR) '24 EarthVision workshop.
- Levering, A.**, Marcos, D., van Vliet, J., Tuia, D., 2023. *Predicting the liveability of Dutch cities with aerial images and semantic intermediate concepts*. Remote Sensing of Environment 287.
- Zhu, X.X., Wang, Y., Kochupillai, M., Werner, M., Häberle, M., Hoffmann, E.J., Taubenböck, H., Tuia, D., **Levering, A.**, Jacobs, N., Kruspe, A., Abdulahhad, K., 2022. *Geoinformation Harvesting From Social Media Data: A community remote sensing approach*. IEEE Geoscience and Remote Sensing Magazine 10, 150–180.
- Levering, A.**, Marcos, D., Tuia, D., 2021. *On the relation between landscape beauty and land cover: A case study in the U.K. at Sentinel-2 resolution with interpretable AI*. ISPRS Journal of Photogrammetry and Remote Sensing 177.
- Levering, A.**, Tomko, M., Tuia, D., Khoshelham, K., 2021. *Detecting Unsigned Physical Road Incidents From Driver-View Images*. IEEE Transactions on Intelligent Vehicles 6.
- Stronkhorst, J., **Levering, A.**, Hendriksen, G., Rangel-Buitrago, N., Rosendahl Appelquist, L., 2018. *Regional coastal erosion assessment based on global open access data: a case study for Colombia*. Journal of Coastal Conservation 22.