

Alex Levering

POSTDOCTORAL RESEARCHER AT VRIJE UNIVERSITEIT AMSTERDAM

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Education

Wageningen University & Research

Wageningen, the Netherlands

PHD CANDIDATE, *cum laude*

09/2019 - 01/2024

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

Ecole Polytechnique Fédérale de Lausanne (EPFL)

Sion, Switzerland

VISITING STUDENT

06/2023 - 09/2023

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

University of Washington in St. Louis

St. Louis, United States

VISITING STUDENT

11/2022 - 05/2023

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

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

Vlissingen, 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*

Professional Experience

- 11/2023 - present **Postdoctoral researcher**, Vrije Universiteit Amsterdam
- 01/2019 - 08/2019 **Advisor Data & Information**, Antea Group
- 2013 - 2019 **Freelance GIS consultant & lecturer**, IHS, Erasmus University, Rotterdam
- 02/2016 - 07/2016 **BASc thesis intern**, Deltares, Delft
- 02/2015 - 07/2015 **Intern urban economics researcher**, IHS Erasmus University

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 ---

2024

Methods of Environment and Resource Management, *VU Amsterdam*

Coordinated and lectured a MSc-level introduction to spatial analysis module.

3 ECTS

2023

Advanced Spatial Analysis, *VU Amsterdam*

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

10 hours

2020-2022

Machine Learning (FTE-35306), *Wageningen University*

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

10 hours yearly

2019

Remote Sensing & Python Programming, *IHS Erasmus University*

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

15 hours

2015-2019

Introduction to GIS, *IHS Erasmus University*

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

9 hours yearly

Mentoring ---

2024

Hamed Ahadi, MSc thesis, *VU Amsterdam*

Revisiting semantic bottlenecks for remote sensing using Bayesian approaches

Primary supervisor

2023

Kim van Hoeve, MSc thesis, *Wageningen University*

Unraveling landscape scenicness with deep learning - On the relation between weather, image aesthetics, and scenicness

Primary supervisor

Antonia Skarli, MSc thesis, *Wageningen University*

Transient attributes - Could the weather affect our subjective perception of an urban place?

Primary supervisor

2021

Tara Kraaieveld, MSc thesis, *Wageningen University*

Calculated experiences: using deep learning for perceived livability in Amsterdam

Primary supervisor

Skills

LANGUAGES

Dutch: native language

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

German: conversational

Notions of French and Mandarin

PROGRAMMING

Python: Primary language, 10 years of experience

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

JavaScript: Infrequent user, 1 year of experience

Linux / Bash: 8 years of low-intensity use

R: 8 years of infrequent use

GIS: ArcGIS Desktop, QGIS, PostGIS

Databases: MySQL, PostgreSQL

Design: ~~TeX~~ LaTeX, HTML, CSS, GIMP, Inkscape

Outreach & Professional Development

SERVICE AND OUTREACH

2016-2018 **Wageningen University MGI programme**, Course review committee member

2017-2018 **Wageningen University MGI MSc programme**, Daily board member

2013-2015 **HZ Delta Management BASc programme**, Course review 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), and the the International Geoscience and Remote Sensing Symposium (IGARSS).

Publications

JOURNAL PAPERS

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.

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.

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., 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.

UNDER REVIEW

Levering, A., Marcos, D., Tuia, D. *Prompt-guided and multimodal landscape scenicness assessments with vision-language models*. PLOS One.