

Machine learning-based NO2 estimation from seagoing ships using TROPOMI/S5P satellite data Kurchaba, S.

Citation

Kurchaba, S. (2024, June 11). Machine learning-based NO2 estimation from seagoing ships using TROPOMI/S5P satellite data. Retrieved from https://hdl.handle.net/1887/3762166

Version: Publisher's Version

Licence agreement concerning inclusion of doctoral thesis License: in the Institutional Repository of the University of Leiden

Downloaded from: https://hdl.handle.net/1887/3762166

Note: To cite this publication please use the final published version (if applicable).

Acknowledgements

"Differences of habit and language are nothing at all if our aims are identical and our hearts are open."

Albus Dumbledore, Harry Potter and the Goblet of Fire

Here, I would like to say thank you to everyone without whom this PhD would never be possible. First of all, I would like to say thank you to my supervision team: Cor Veenman, Jasper van Vliet, Fons Verbeek, and Jacqueline Meulman. Thank you Cor, for your always timely feedback, critical opinions, but also patience and willingness to change and adjust when needed. Thanks, Jasper, for always being there, ready to help. Your open-mindedness and adventurous spirit alongside your willingness to understand every detail of the project made it a pleasure to work with you. Thanks, Fons, for your support and great care that I always have everything I need. Thanks for always being there with a solution and understanding, when yet another "it's a disaster" situation needed to be resolved. I would like to say thank you to Jacqueline for your support and faith in me from the first day we met. It is rare and extremely valuable when a supervisor becomes more like a friend.

It was a great pleasure to spend four years of my PhD in such a friendly and welcoming environment as LIACS. I would like to say thank you to my colleagues, who made me feel that together we are a part of something bigger. I would like to thank Antonio and Gerrit-Jan – you were the first PhDs I met when I first came to Leiden. You made me feel a part of a LIACS family even before I was officially accepted. I would like to thank Marie, Daniela, Sander, Koen, Lieuwe, and Theodoros – thanks to you, even starting during the lockdown, I did not feel lonely and socially isolated. My big thanks to Lea for all our adventures and unforgettable moments. I wish Innsbruck was not that far and we could see each other more often. I also would like to send my words of gratitude to Thomas, Jan, Rohola, and Lu - I always enjoyed our conversations and it's difficult to underestimate how much your wise bits

of advice helped me to navigate the way towards the PhD. I would like to say thank you to Gerrit-Jan, Arina, and Qi for your enthusiasm, help, and the fun we had when together organizing LIACS PhD seminars. Finally, I would like to say thank you to my colleagues from office 115 - Erick, Jia, Irene, Danyi, Mike, and Yi. Thanks to you, work there always felt cozy and fun.

I would also like to say thank you to my colleagues outside LIACS. First of all, thank you, Laura - I was so lucky to work with you on that Data Science course. I am very grateful the work on a course grew into a friendship. I would like to say thank you to Christoph for being a teammate on this journey toward understanding TROPOMI data and ship plumes. So many times your knowledge of atmospheric chemistry helped me to move this research forward. I would like to thank Artur for your willingness to help in a difficult moment and for our endless conversations that started way before I began my PhD, nevertheless, had a great influence on leading me towards this point. Finally, I would like to say thank you to the whole team of IDlab, ILT for your support throughout my PhD journey.

A special place in this Chapter belongs to Charles. I can't imagine how my PhD would turn out if I hadn't met you. Thank you for always being there for me, for all the support, and encouragement, and for not letting me give up at the moment of weakness. I am so lucky to have you in my life.

Last, but most I would like to say thank you to my mom and dad. You are my example of strength and perseverance even in the most difficult times. I am eternally grateful for all the opportunities you gave me throughout my life and all the sacrifices it cost you. Thanks for believing in me, sometimes even more than I believe in myself.

This thesis I dedicate to my grandpa. Unfortunately, you won't be able to read it, but without you, it would never happened. It was you, who saw in your little girl a future scientist, showing how fascinating and beautiful the world of problem-solving, experiments, and searching for answers could be. Thank you for that, you are always in my heart.

Curriculum Vitae

"- Who are you? - said the Caterpillar.

- I hardly know, Sir, just at present—at least I know who I was when I got up this morning, but I think I must have been changed several times since then."

Alice's Adventures in Wonderland

Solomiia Kurchaba was born on November 24, 1995, in Lviv, Ukraine. In 2013, she graduated from the Lviv Physics and Mathematics Lyceum. She then started her studies at the University of Silesia in Katowice, Poland. During her bachelor's studies, she was a part of the Multidisciplinary College for Individual Studies combining econophysics as a major and financial mathematics as a minor. She also participated in Erasmus+ student exchange program and spent one semester of her studies at Universidade do Minho, in Braga, Portugal. In 2016, she obtained her bachelor's degree cum laude in Econophysics. In 2018, she completed her Master's studies in theoretical physics, cum laude. During her studies, she was a recipient of the Stephan Banach scholarship - a Polish government scholarship for international students in STEM. During her Master's she also enrolled in a summer research internship at the Machine Learning Group of the Universite Libre de Bruxelles in Brussels, Belgium. She then started her job as a data scientist in Storkjet – a startup, where her job was to develop machine-learning-based solutions for aircraft performance optimization. During her work in the company, the developed solutions were implemented into the production systems of several big European and American airlines. In 2019, she started her PhD studies at Warsaw University of Technology. However, after one semester she decided to change her PhD program. In May 2020, despite COVID restrictions, she moved to Leiden, The Netherlands. Starting from May 2024, she is a postdoctoral researcher at SRON Netherlands Institute for Space Research.