Lucas van der Horst

Email: vanderhorst.lucas@gmail.com **Phone:** (+31) 633244407

Website: https://lucas-vdh.github.io/ **Website:** https://github.com/Lucas-vdH

Website: https://www.linkedin.com/in/lucas-vanderhorst/

Date of birth: 27 Feb 2001 **Nationality:** Spanish

ABOUT ME

I am an internationally experienced, open-minded, and driven MSc Physics student at Ludwig-Maximilians-Universität München (University of Munich), specializing in AI in Physics. With a Bachelor's degree in (Particle) Physics, alongside certifications in Deep Learning, Machine Learning, DevOps & Software Engineering, and Data Science, I have cultivated a deep commitment to continuous learning, exploring the intersection of AI and Physics/Science and how it can contribute to society.

EDUCATION AND TRAINING

[Oct 2024 – Current]

Msc Physics, AI in Physics

Ludwig-Maximilians Universität München

City: Munich | **Country:** Germany |

[Sep 2019 – Jul 2023]

BSc Physics, Particle Physics

University of Groningen

City: Groningen | **Country:** Netherlands | | **Thesis:** Heterogeneity of VELO's pixels response to a monochromatic Fe55 radioactive source

[Mar 2024 – May 2024]

Deep Learning Specialization Certificate

DeeplearningAI https://coursera.org/share/77b6c2ad39a941eaac487a7f4fced328

[Jan 2024 – Feb 2024]

Machine Learning Specialization Certificate

DeeplearningAI, Standford University https://coursera.org/share/c98b0f87e0900b7a9b2e846af6aa9ae3

[May 2024 – Jul 2024]

DevOps and Software Engineering Specialization Certificate

IBM https://coursera.org/share/69f9403614ac78f924d7ce9aeffa010d

[Nov 2023 – Dec 2023]

Data Science Specialization Certificate

IBM https://coursera.org/share/1cdbc40e48b2dcc86d7459078a97925c

[Oct 2024 – Current]

B1 Deutsch IntensivKurse

DKFA

City: Munich | **Country:** Germany |

PROJECTS

[Mar 2023 – Jul 2023]

BSc Physics Thesis: Heterogeneity of VELO's pixels response to a monochromatic Fe55 radioactive source

CERN, LHCb Groningen Group

Study of the CERN's LHCb's VELO's pixel's behaviour in response to a radioactive source through Data Analysis using Python: preprocessing the data, fitting theoretical functions to the data, visualizing the results and applying domain knowledge to draw conclusions and further steps.

[Oct 2024 – Current] **Applied Deep Learning**

Ludwig-Maximilians Universität München

Active practical research on a Deep Learning topic with a supervisor, with the aim of publishing a paper, integrating the developed software into Tensorflow, Pytorch, JAX or deepregession, or otherwise making it useful for and ready to use by the public and research community.

[Oct 2024 – Current] **Quantum Machine Learning Talk**

Ludwig-Maximilians Universität München

Study, preparation and short talk on Quantum Machine Learning as part of a seminar on Quantum Computing for the MSc (AI in) Physics.

[Oct 2024 – Current] **KAN Talk**

Ludwig-Maximilians Universität München

Study, preparation and short talk on the novel Kolmogorov-Arnold Networks (KAN) as part of a seminar on Physics and AI for the MSc (AI in) Physics.

[Oct 2023 – Jan 2024] **Algorithmic Trading Robot**

Personal

Build a fully functional Algorithmic Trading Robot as a learning exercise, using Python, Shell Scripts and different API callings, focusing on a functional program rather than a utilitarian algorithm. The project includes some data analysis, tools to study the market response to an given algorithm, interaction capabilities with the real market and portfolio tracking.

[Jan 2024 – Feb 2024] **Nutrition Explorer Dashboard**

Personal

Build a fully functional public Dashboard as a learning exercise, using the Dash-Plotly library in Python, SQL and Google Cloud. The project includes some data analysis, higher level interactive visualizations and a web platform to interact with the dashboard.

WORK EXPERIENCE

[Sep 2021 – Jul 2023] **Teaching Assistant**

University of Groningen

City: Groningen | **Country:** Netherlands

- Preparation of tutorials and laboratory practicals,
- guidance to students in tutorial exercises and research projects and

- assessment of students' examinations, reports, teamwork and other graded material
- for the courses: Mechanics & Relativity, Physics Laboratory, Waves & Optics for Biomedical Engineers, Python for Physicists, Mathematics & Statistics for Pharmacists and Computing Science Ethical & Professional Issues.

[2021 – 2021] **Physics personal tutor**

Freelance

City: Groningen | **Country:** Netherlands

- Personalized preparation of undergraduate level physics teaching material and exercises and
- personal onsite teaching and guidance through selected exercises.

LANGUAGE SKILLS

Mother tongue(s): Spanish , French

Other language(s):

English

LISTENING C2 **READING** C2 **WRITING** C2

SPOKEN PRODUCTION C2 **SPOKEN INTERACTION** C2

German

LISTENING A2 **READING** A2 **WRITING** A2

SPOKEN PRODUCTION A2 **SPOKEN INTERACTION** A2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user