Maxim Khomiakov

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PUBLICATIONS

- **Khomiakov, M.**, Andersen, R.M., Frellsen, J. 2023. *Polygonizer: An auto-regressive building delineator*. ICLR 2023 Workshop on Machine Learning in Remote Sensing
- **Khomiakov, M.**, Mahou, A.V., Sanchez., R.A., Frellsen, J., Andersen, R.M., 2023. *Learning to Generate 3D Representations of Building Roofs Using Single-View Aerial Imagery*. ICASSP 2023
- **Khomiakov, M.**, Radzikowski, J.H., Schmidt, C.A., Sørensen, M.B., Andersen, M., Andersen, M.R. and Frellsen, J., 2022. *SolarDK: A high-resolution urban solar panel image classification and localization dataset*. NeurIPS 2022 Workshop: Tackling Climate Change with Machine Learning
- Hovad, E., Wix, T., **Khomiakov, M.**, Vassos, G., da Silva Rodrigues, A.F., de Miguel Tejada, A. and Clemmensen, L.H., 2021. *Deep learning for automatic railway maintenance*. Intelligent quality assessment of railway switches and crossings, pp.207-228.

EDUCATION

Technical University of Denmark **Copenhagen, Denmark**
Industrial PhD in Machine Learning Expected 2023
Supervised by Assoc. Professor Michael R. Andersen and Assoc. Professor Jes Frellsen

- Deep Generative Modelling in the Geospatial Domain

Imperial College London **London, United Kingdom**
MSc. in Biomedical Engineering (Neurotechnology) 2016
Supervised by Professor Anil Anthony Bharath

- Thesis: *Artificial Neurons and Biological Motion* (Grade: 69/100)
  Replicating studies by Taylor & Hinton using Deep RBMs to model proprietary captured MoCap-data, with the goal of predicting personal identifiable traits from a small number of initial frames.

Technical University of Denmark **Copenhagen, Denmark**
MSc. in Mathematical Modelling & Computation 2015
Supervised by Assoc. Professor Line Harder Clemmensen

- Thesis: *Multivariate Pattern Analysis of Vehicles on Tracks and Wheels* (Grade: 12/12)
  Modeling IMU-sensor data from an unsupervised and supervised perspective, inferring predictive signals relating to vehicle maintenance.

Technical University of Denmark **Copenhagen, Denmark**
B.Eng in Computer Science & Economics 2012

- Exchange: Chinese University of Hong Kong, Economics Hong Kong SAR

WORK EXPERIENCE

Otovo AS **Oslo, Norway**
ML Researcher, Product Insights Current

- Teaching ML knowledge and education throughout the Product organization
- Developing ML-driven products from concept towards PoC and production:
  - Automated Lead Scoring based on historical trends with decision trees
  - Market dynamics optimization tool using decision trees to measure price competitiveness
  - Market dynamics pricing simulation tool recommending changes in pricing
  - Remote-sensing based inference tool, using imagery to identify buildings and roof surfaces
  - Remote-sensing based inference tool predicting the potential placement of solar panels from imagery

Sunmapper **Copenhagen, Denmark**
Co-founder & CEO 2015 - 2018

- Sunmapper developed software to estimate future photovoltaic production of energy. Utilizing state of the art image and geospatial analysis techniques, Sunmapper simulated yield curves from PV systems and presented the results for the customer on demand.
- Winner of awards at E.ON Agile Accelerator Demo Day 2016 in Essen. Winning both categories "*No. 1 start-up E.ON should invest in*" and "*Best Pitch*".
- Acquired in 2018 by Otovo AS

Teaching Experience **Technical University of Denmark**

- Teaching Assistant in 'Stochastic Simulation' 2015
- Teaching Assistant in 'Introduction to Machine Learning' 2018
- Teaching Assistant in 'Deep Learning' 2018
- Teaching Assistant in 'Deep Learning for Industry' 2020
- Teaching Assistant in 'Adv. Machine Learning' 2022
- Supervision of BSc. and MSc. students in ML projects 2021-2022

OTHER ACTIVITIES

- Best Oral Presentation: "Learning to Generate 3D Representations of Building Roofs Using Single-View Aerial Imagery" at Nordic AI Meet 2022
- 1st Winner of Copenhagen Fintech InsurTech Hackathon 2017
- 1st Winner of DTU Big Data Hackathon 2014
- 1st Winner of Kearney case competition 'Engineers in Consulting' 2014
- Completed Deloitte Øresund Triathlon 2014 – Half Ironman distance. Finish top 25 of age bracket.

SKILLS, ACTIVITIES & INTERESTS

Languages: Fluency in English, Danish and Russian. Speaking proficiency in German, Swedish and Norwegian
Technical Skills: Python, R, Matlab, SQL
Interests: I enjoy cooking, playing golf, scuba diving and music.