Maxim Khomiakov

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PUBLICATIONS

- **Khomiakov, M.,** Andersen, M.R. and Frellsen, J., 2024. *GAST: Geometry-Aware Structure Transformer*. In Proceedings of the IEEE/CVF Winter Conference on Applications of Computer Vision (WACV) Workshops (pp. 785-793).
- **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., Sánchez, A.R., Frellsen, J. and Andersen, M.R., 2023, June. *Learning To Generate 3D Representations of Building Roofs Using Single-View Aerial Imagery*. In ICASSP 2023 IEEE International Conference on Acoustics, Speech and Signal Processing
- **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

EDUCATION

Technical University of Denmark   **Copenhagen, Denmark**
Industrial PhD in Machine Learning   Expected 2024
Supervised by [Assoc. Professor Jess Frellsen](#) and [Assoc. Professor Michael Riis Andersen](#)
- 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*
  Replicating studies by Taylor & Hinton using Deep RBMs to model proprietary captured MoCap-data, with the aim 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*
  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

WORK EXPERIENCE

Otovo AS   **Oslo, Norway**
Industrial PhD & ML Researcher, Product Insights   2018 - Current
- Teaching ML expertise throughout the Otovo Product organization
- Developing ML-driven software products from concept towards PoC and production:
  Reodor: Automated Lead Scoring based on historical trends with decision trees
  CosMo: Market optimization using decision trees to measure price competitiveness
  IMU: Pricing simulation applying dynamic programming to recommend changes in pricing
  Outliner: Using imagery to predict roof surfaces
  RecPanels: Predicting the optimal placement of solar panels from imagery

Sunmapper   **Copenhagen, Denmark**
Co-founder   2015 - 2018
- Developed software to estimate photovoltaic energy production. Utilizing image and weather data with geospatial analysis techniques, Sunmapper simulated yield curves from PV systems and presented the economic impacts 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

Miscellaneous engagements:
- **Oersted, Student assistant, Models & Methods:** Developed and maintained automatic Mark-to-Market calculations on active portfolio of commodity futures using SAS.
- **Valcon, Junior consultant, Procurement:** Junior consultant on public tenders with client exposure on projects facilitating purchases of above $50M.

Teaching Experience   **Technical University of Denmark**
- *Teaching Assistant:* Stochastic Simulation, Introduction to Machine Learning, Deep Learning, Deep Learning for Industry, Advanced Machine Learning.

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, C++, Java, SQL
Interests: I enjoy cooking, playing golf, scuba-diving and music.