# Jonathan Lindberg

*Software Engineer*
*M.Sc.Eng, Mathematics*

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*Nationality: Swedish*

A dedicated and enthusiastic Machine Learning Engineer with a strong background in mathematical and statistical concepts. With 4+ years of experience in the field of machine learning and data analytics, I have sharpened my skills in the development of innovative solutions and predictive models. Currently, I am proud to be part of the teams at Zenseact (formerly Volvo Cars), where I work in the perception area and play a critical role in developing life-saving support functions. My passion for technology, combined with my eagerness to continuously learn and grow, makes me a valuable asset to any organization seeking to drive innovation in the field of machine learning and innovative solutions.

## Experience

Ongoing – Jan 2024 **Software Engineer, Machine learning** , *Zenseact (Volvo Cars), Lund, Sweden.*

- Utilized classical mathematical and computer vision methods to achieve 3D reconstruction from fisheye camera data, providing crucial ground truth for parking applications and significantly reducing annotation costs by processing sequences instead of individual frames.
- Created and optimized a modern deep learning model for direct 3D world mapping, specifically tailored for advanced parking functionalities, significantly improving real-time performance and precision.
- Contributed to the development and deployment of custom TensorRT solutions and successfully integrated and tested NVIDIA SAFE models on embedded devices, ensuring robust and efficient inference for real-world applications.

Jan 2024 **R & D Software Engineer, Machine learning** , *Volvo Cars, Lund, Sweden.*

Aug 2021
- Designed and implemented components and end-to-end solutions for the pipeline that converts raw data into functional car software for fisheye cameras.
- Developed techniques for the analysis and selection of data from a vast pool of over 20 million frames, with the goal of enhancing the model's performance.
- Collaborated on post-processing in CUDA to reduce latency.
- Developed the complete training loop and network to improve 3D understanding through the application of geometrical constraints and sensor fusion.
- Worked within an Agile framework, utilizing Scrum methodologies, and leveraged my understanding of Agile principles to deliver high-quality results in a dynamic and evolving environment.

June 2021 **Master Thesis, Machine learning**, *Volvo Cars, Lund, Sweden.*

Dec 2020
- Title: Lindberg, J. (2021). *Monocular depth estimation for dynamic scenes.*
- Applied a novel idea to improve training on data from dynamic scenes based on optical flow.
- Developed training strategies to improve the accuracy of the models.
- Implemented networks described only in text to predict residual scene flow.

April 2016 **Warehouse Worker, Consultant**, *Palm & Partners, Malmö, Sweden.*

Jan 2015
- Worked at Clariant Masterbatch as a member of a team that was responsible for logistics.
- Helped with the whole process of shipping the finished product, from booking forwarding agents to handle sensitive medical chemicals.

## Education

June 2021 **M.Sc.Eng, Engineering Mathematics**, *Lund University*, Lund, Sweden.

Oct 2016
- Specialization in Image Analysis and Machine Learning.
- Took courses in signal processing, stochastic modeling, algorithms, data structures, and machine learning (and numerous other).
- Engaged in competition hold by different faculties, such as algorithms and mathematical competitions.

May 2016 **Various courses**, *Malmö University*, Malmö, Sweden.

Jan 2016
- Linear Algebra.
- Statistics.

## Technical skills & Projects

Technologies git, docker, CI/CD, linux, Unity, tensorflow, pytorch, numpy, pandas.

Languages Python, C++, C#, MATLAB, Java,