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Roland Meertens

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About me -

I have a passion for Artificial Intelligence and am specialised in (automotive) robotics projects. My knowledge ranges from interfacing sensors to and how to deploy efficient (machine learning) algorithms on limited hardware. I have set up machine learning projects all the way from sensor selection, data collection and labelling to deploying models in production.

I am passionate about technology, and spend a lot of my spare time building and publishing interesting technical projects. I sometimes join competitions, and frequently get invited to speak at meetups, universities, and conferences.

Employment

Teach Lead - Wayve **2024 - current**

- Managed the Datasets team and grew it from zero to ten people
- Tech lead for the expansion to Germany, Japan, and the expansion to the Nissan Ariya
- **Skills:** Python, PyTorch

Machine Learning Engineer - Bumble **2023 - 2024**

- Implemented face verification and recognition algorithms keeping our users safe
- Prototyped multiple applications of AI-interaction between users and our platform.
- **Skills:** Python, PyTorch

Machine Learning Engineer and Product Manager - Annotell **2020 - 2022**

- Implemented an AI-assisted data selection tool that uses latent features to find interesting samples to label.
- AI-assisted 2D bbox labeling focussing on improving the quality of the auto-generated labels.
- Won the ZenseAct Edge AnnotationZ 2D/3D object detection challenge.
- **Skills:** Python, TensorFlow, ElasticSearch

Machine Learning Engineer - Autonomous Intelligent Driving **2018 – 2020**

- Created neural networks for lidar-based 3D object detection. These ran in our perception stack on limited hardware.
- Worked on the data selection and label specifications for our dataset.
- Implemented efficient algorithms to detect 'landmarks' for our localisation algorithms using lidar data.
- Hardware accelerated several of the algorithms we were running on our vehicle to make our perception pipeline act in 'real time'.
- **Skills:** Python, TensorFlow, C++, CUDA, OpenCV, TensorRT, Robotics

Research Engineer - Infor **2016 – 2017**

- Changed our (pre)translation software to use neural networks, reducing human translation effort.
- Worked on automatic post-editing methods to improve our existing translation software.
- **Skills:** Python, TensorFlow, JavaScript, Java, C#

Researcher - TU Delft -MAVLab **2015 - 2016**

- Led the team that came second at the autonomous drone race competition at IROS 2016.
- Worked on efficient indoor localisation methods for autonomous drones.
- Created obstacle avoidance algorithms using ultra light weight stereo camera's
- **Skills:** C++, C, Python, OpenCV, Robotics

Jobs during my study - **2011 - 2015**

- Internship at SpirOps. Developed the dialogue management system for a humanoid robot.
- Manager robotics lab at the Radboud University. Helped set up a lab and taught students how to use the robots.

Education

- Radboud University Nijmegen **Sept. 2009 – March 2015**

- M.S.E. in Artificial Intelligence. Title of thesis: “A Scalable Mixed Initiative Dialogue Manager”.
- B.S.E. in Artificial Intelligence. Title of thesis: “Gesture based flight control”.

Passion Projects

Maintaining my personal blog - Meertens.dev **2014-present**

- The blog had over 100.000 unique visitors over the last eight years and made the frontpage of news.ycombinator.com multiple times.
- Blog aimed at improving software by adding a bit of artificial intelligence. I write about the machine learning projects I conduct in my spare time.
- Interesting projects I am proud of: an autonomous self-built robot, a virtual reality visualisation tool for lidar data, and a music recommender system for people that are learning a foreign language.

Editor - InfoQ.com

- InfoQ.com is a website aimed at (senior) software developers. It has 2.5 million unique visitors per month.
- Wrote multiple news articles, reviewed external articles with their authors, created podcasts, and organised two editions of the QCon AI conference in San Francisco.
- Frequently invited as a speaker to the QCon conferences.

Talks and conferences

- **Intelligent Vehicles 2023** Data-centric AI for Robotics. Keynote at the workshop on Data Driven Intelligent Vehicle Applications
- **QCon Plus 2021** The Unreasonable Effectiveness of Zero Shot Learning. A talk covering the latest advances in deep learning with respect to so-called ’foundational models’. The talk both talked about the theory behind GPT-3 and CLIP, and had a hands-on part to get listeners started with the technology.
- **2D3D AI 2021** Methods for Data Selection in Autonomous Vehicles. A talk covering methods to build an image-search engine to find the best samples to label to improve your detection algorithm. The workshop consisted of a theoretical part, as well as a hands-on part in which participants were challenged to build their own data-search algorithms.
- **IROS 2020** Keynote: The road towards perception: Methods, challenges, and data required. The talk is an overview of state of the art methods for autonomous driving, and which data one needs to solve these problems.