

Deep Learning Meetup **@ Space.10**



Sensomind

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Sensomind is a solution for **manufacturers** that increases **product quality** and **optimizes processes** by analyzing images of products using **artificial intelligence**.

Manufacturing generates large
amounts of data (industry 4.0)

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Interesting for AI

Quality control and process optimization
in manufacturing is notoriously hard



Exhibition at



Microsoft



Camera

Products

Conveyor belt

Sensohub



Product

Sensomind

- Cloud-based solution with an intuitive web interface



Sensohub

- IP65-graded hardware unit connected to cameras and other types of sensors





Examples of Deep learning methods at Sensomind

- Image semantic segmentation for e.g. locating regions of interest in products
 - Autoencoders and Adversarial autoencoders for e.g. clustering of products
 - Generative Adversarial Networks for e.g. training data generation
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- Image classification for sorting products at a conveyor belt



Encountered problems

- Popular classification networks like ResNet, VGG or AlexNet do not pay much attention to complexity
 - Resulting in models that are too big and slow to evaluate on embedded devices
- Annotating, collecting, transferring and storing data can be costly
 - We want models that can be trained on smaller datasets



Solutions?

- Model complexity
 - Clever network design
- Data shortage
 - Data augmentation
 - Transfer learning

And many more..

One-shot learning, semi-supervised learning, model compression etc..



DEMO TIME

Github repo: <https://github.com/Sensomind/DeepLearningMeetup>



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