WP 6 – Climate Action: Making Data Widely Available

Who are we?

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- Markus Skogsmo @ AFRY (markus.skogsmo@afry.com)
  - Area of Expertise: Data Science and Engineering, Software Development, Telecommunication and Signal Processing
- Master thesis students:
  - Shuzhi Dong
  - Tim Melcherson
  - Karolin Gjöthlén

INTER⇄ACT

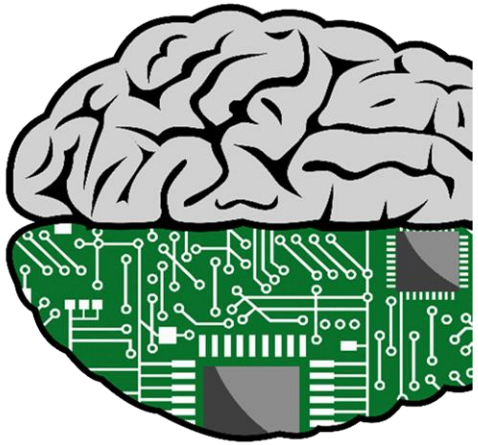
Aim/Tasks and Deliverables of WP 6

- Increase awareness of Machine Learning and Artificial Intelligence and how to use the technology
- Pre-study on inquiries and needs from research stations, to identify datasets and questions to be answered
- Exploring possible applications of machine learning, focusing on topics related to land use, icescapes, landscapes and ecosystems
- Using Machine Learning on example data to make specific algorithms and methods available and demonstrate the outcome
- Ensure open data access

(Credit: Mikko Jokinen)

Progress

- Milestone
  - A mini-workshop was held in June on AI and Machine Learning
- Deliverable 6.2 reached yesterday
  - Workshop with demonstration on technology available today and expected in the future in the area of ML and AI technology
- Work in progress for deliverable 6.1
  - Pre-study on inquiries and needs from identified station managers and researchers, to identify possible datasets and type of questions to be answered
  - Compiled notes from discussions from the mini-workshop
  - Questionnaire to station managers created – to be compiled



(Source: https://pngflow.com)

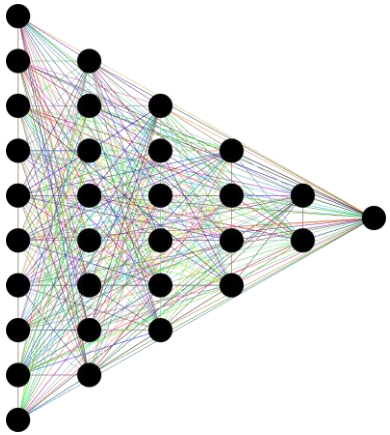
Progress

- Milestone: Master thesis students in the final stages:
  - ”Deep Learning for Iceberg Detection in Satellite Images” by Shuzhi Dong
  - Working title: ”Augmentation of Images to Create Lower Quality Images for Training on the State-of-the-art YOLOv4 Object Recognition Model” by Tim Melcherson
  - ”Searching and Recommending Texts Related to Climate Change” by Karolin Gjöthlén

Requirements from others

Deliverable 6.1

Pre-study on inquiries and needs from identified station managers and researchers, to identify possible datasets and types of questions to be answered.



- **In short: We are dependent on your input!**
- We would highly appreciate it for station managers to fill out our questionnaire at: <LINK TO BE ADDED IN FINAL VERSION>
- Getting in contact. Either by you contacting us or we contacting you; either for an informal talk or for an interview.

Ways forward

- Following the completion of the pre-study (D6.1):
  - Two or three ideas will be chosen for a pilot study.
  - This will lay the foundation for D6.3,
    Use machine learning on some example data to make specific algorithms and methods available and demonstrate the outcome.
  - Master thesis students will also be engaged in the pilot study.