WP 6 – Climate Action: Making Data Widely Available

Who are we?

- Tomas Gustafsson@ AFRY (tomas.c.gustafsson@afry.com)
  - Areas of expertise: New innovation, radio communications, UAV, defence and security

- Maria Erman @ AFRY (maria.erman@afry.com)
  - Areas of expertise: Machine learning and artificial intelligence, signal processing, telecommunications,

- Carl Sundström @ AFRY (carl.sundstrom@afry.com)
  - Areas of expertise: Engineering, scientific computing, numerical models, simulations and optimization

- Master thesis students:
  - Fredrik Örn
  - Maja Linderholm

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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)

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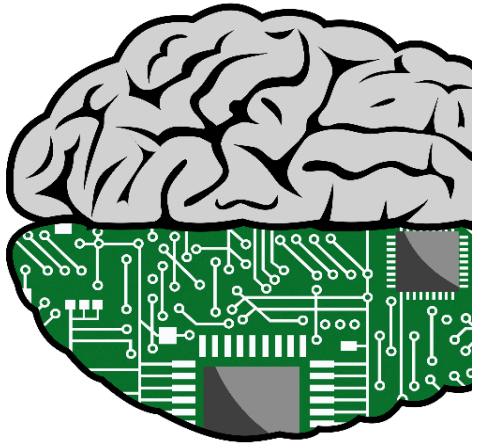
Progress

- 2/4 deliverables have been delivered. The next deliverables:

- Deliverable 6.3 (work in progress)
  - Exploring possible applications of machine learning, focusing on topics related to land use, icescapes, landscapes and ecosystems (Month 26)

- Deliverable 6.4 (work in progress)
  - Collating previously completed work, and master theses.



(Source: https://pngflow.com)

Current Work and Ways Forward – Foundations of D6.3 and D6.4

- Master thesis student, Fredrik Örn in collaboration with The Cairngorm Station, with Jan Dick and Christopher Andrews:
  - Computer vision project.
  - Detection and classification of animals.

- Master thesis student, Maja Linderholm on cutting edge natural language processing on archived logbooks from the Tarfala Station. Access to OpenAI's (Elon Musk) GPT-3!

- Previously finished Master Theses:
  - ”Deep Learning for Iceberg Detection in Satellite Images” by Shuzhi Dong

  - ”Image Augmentation to Create Lower Quality Images for Training a YOLOv4 Object Detection Model” by Tim Melcherson

  - ”Searching and Recommending Texts Related to Climate Change” by Karolin Gjöthlén

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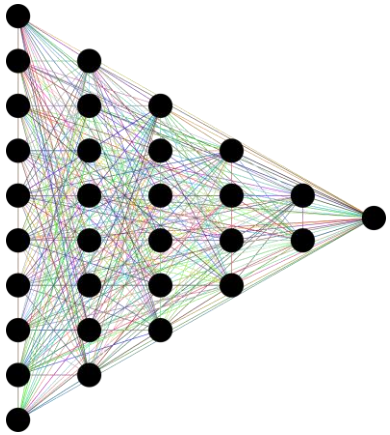
DEMO

Requirements from Others

- No requirements at the moment
- Everything progressing smoothly
- Archived physical text data, images or ideas are always of interest
- For discussions on anything AI/ML related, you are welcome to contact either of us:

maria.erman@afry.com
tomas.c.gustafsson@afry.com
carl.sundstrom@afry.com



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THANK YOU FOR YOUR ATTENTION