





Ritten Roothaert, MSc.




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 <https://ritten11.github.io/about/>



Employment History



- 2023 –  **Ph.D. in Hybrid Intelligence**, Vrije Universiteit Amsterdam
Project title: *Hybrid Explainable Workflows for Security and Threat Intelligence*
- 2018 – 2022  **Teaching assistant**, University of Groningen / Vrije Universiteit Amsterdam
Courses:
- (1x) Knowledge Representation on the Web
 - (1x) Logical Aspects of Multi-Agent systems - M.Sc.
 - (1x) Behavioral Biology - B.Sc.
 - (2x) Artificial Intelligence 1 - B.Sc.
 - (2x) Object Oriented Programming - B.Sc.

Education





- 2023 –  **Ph.D. in Hybrid Intelligence, Vrije Universiteit**
Project title: *Hybrid Explainable Workflows for Security and Threat Intelligence*
- 2020 – 2022  **M.Sc. Artificial Intelligence, University of Groningen**
Thesis title: *Improving Data Assimilation Approach for Estimating CO₂ Surface Fluxes Using ML* (thesis - code). Average grade: 8.3
- 2016 – 2020  **B.Sc. Artificial Intelligence, University of Groningen**
Thesis title: *Using reinforcement learning to fight forest fires: Comparing CMC with CoSyNE* (thesis - code). Average grade: 7.6

Research Publications

Conference Proceedings

-  S. Verkijk, R. Roothaert, R. Pernisch, and S. Schlobach, “Do you catch my drift? on the usage of embedding methods to measure concept shift in knowledge graphs,” in *Proceedings of the 12th Knowledge Capture Conference 2023*, ser. K-CAP ’23, Pensacola, USA: Association for Computing Machinery, 2023, pp. 70–74, ISBN: 9798400701412.  DOI: 10.1145/3587259.3627555.

Skills

- | | |
|------------|---|
| Languages |  Strong reading, writing, and speaking competencies in English and Dutch. Basic understanding of German, Norwegian, and Spanish. |
| Coding |  Python, Java, RDF, SPARQL, \LaTeX , HTML, CSS, JavaScript |
| Frameworks |  ACT-R, GraphDB, rdflib, owlready2, PyTorch |
| Misc. |  Coaching, Teaching, Rowing, Agriculture, .git, Safe Microbial Techniques. |

Projects

- Machine Learning
- ML approach on optimizing alpha-amylase production in *Saccharomyces spp.* (report - code)
 - Comparing different feature extraction techniques on time series classification with a feedforward neural network (report - code)
- Epistemic Logic
- Modeling the Resistance game using epistemic logic (report - code)
- Multi-agent Systems
- Modeling the spread of SARS-Cov-2 in public trains (report - code)

Miscellaneous Experience

Awards and Achievements

- 2021
- 1st prize over-graduate environmental track**, International Genetically Engineered Machine (iGEM) 2021.
 - Top-10 over-graduate team**, International Genetically Engineered Machine (iGEM) 2021.
 - 4 other nominations, including Best Model**, International Genetically Engineered Machine (iGEM) 2021.
- 2019
- 3rd place freshman lightweight-crew ranking K.N.R.B. (coaching)**, A.G.S.R. Gyas.
- 2016
- 2nd place freshman lightweight-crew ranking K.N.R.B. (rowing)**, A.G.S.R. Gyas.

Notable courses

- 2023
- Knowledge Representation on the Web**, Vrije Universiteit
topics: *knowledge graphs, RDF, SPARQL, graph embeddings, semWeb*
- 2021
- Logical Aspects of Multi-agent systems**, university of Groningen
topics: *(application of) epistemic logic, action models, belief systems*
 - Machine Learning**, University of Groningen
topics: *probability density functions, PCA, backpropagation/loss functions, feature extraction*
- 2020
- Deep Learning**, University of Groningen
topics: *CNNs, RNNs, encoder-decoder systems, GANs, optimizers*
- 2019
- Advanced Logic**, University of Groningen
topics: *modal logic, analytical tableaux, FOL*

Extracurricular activities

- 2021
- Team member iGEM Groningen 2021**. University of Groningen.
roles:
 - Drylab manager
 - Treasurer
 - Human Practice team member
- 2018-2019
- Lightweight rowing coach**. A.G.S.R. Gyas.
- 2015-2018
- Lightweight rower**. A.G.S.R. Gyas.
- 2015
- Lightweight rower**. D.R.V. Euros.