1. Personal Information

Name:	Samuel Håkansson
Academic degree:	PhD
Citizenship:	Swedish
Work Address:	Department of Health Sciences and Technology, ETH Zurich, Lengghalde 2, 8008 Zürich
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PubMed:	https://pubmed.ncbi.nlm.nih.gov/?term=H%C3%A5kansson+S&cauthor_id=34245010

2. Education

July 2020 – June 2023   **Doctor of Philosophy (PhD)**, University of Gothenburg, Sahlgrenska Academy, Gothenburg, Sweden. Thesis: "Machine learning and big data for personalized epilepsy treatment". *Supervisor: Prof. Dr. Johan Zelano, MD*

August 2018 – June 2020   **Master's Degree in Complex Adaptive Systems**, Chalmers University of Technology, Gothenburg, Sweden. Thesis: "Minimizing search time for finding an effective treatment: Learning a near-optimal policy using constrained algorithms, approximations, and causal inference"
Thesis Supervisor: Prof. Dr. Fredrik D. Johansson

August 2015 – June 2018   **Bachelor's Degree in Software Engineering**, Chalmers University of Technology, Gothenburg, Sweden

3. Employment Record

August 2023 –   **Postdoctoral researcher**, ETH Zürich, Zürich, Switzerland *(Supervised by Prof. Dr. Catherine Jutzeler)*

October 2022 – March 2023   **Research Fellow**, (exchange during PhD studies) Seer Medical, Melbourne, Australia *(Supervised by Dr. Ewan Nurse)*, collaboration with University of Melbourne

4. Publications

2023   **Samuel Håkansson**, Ronny Wickström and Johan Zelano. *Selection and continuation of antiseizure medication in children with epilepsy in Sweden 2007-2020.* **Pediatric Neurology** *144 (2023) 19-25. doi: 10.1016/j.pediatrneurol.2023.03.016.*

2022   Rakesh Kumar Banote, **Samuel Håkansson**, Henrik Zetterberg, Johan Zelano. CSF biomarkers in patients with epilepsy in Alzheimer's disease: a nation-wide study. **Brain Communications** 4 (4), fcac210. doi: 10.1093/braincomms/fcac210

2022   **Samuel Håkansson**, Johan Zelano. Big data analysis of ASM retention rates and expert ASM algorithm: A comparative study. **Epilepsia**. 2022; 63: 1553–1562. doi: 10.1111/epi.17235

2021   **Samuel Håkansson**, Markus Karlander, David Larsson, Zamzam Mahamud, Sara Garcia-Ptacek, Aleksej Zelezniak, Johan Zelano. Potential for improved retention rate by personalized antiseizure medication selection: A register-based analysis. **Epilepsia**. 2021; 62: 2123–2132. doi: 10.1111/epi.16987

2021   Zamzam Mahamud, **Samuel Håkansson**, Joachim Burman, Johan Zelano. Retention of antiseizure medications for epilepsy in multiple sclerosis: A retrospective observational study. **Epilepsy & Behavior**, 2021; 121: doi: 10.1016/j.yebeh.2021.108034

2020   **Samuel Håkansson**, Viktor Lindblom, Omer Gottesman, Fredrik D. Johansson**.** *Learning to search efficiently for causally near-optimal treatments.* Advances in Neural Information Processing Systems 33 (**NeurIPS 2020**)

5. Awards and Honors

2022	Swedish Society for Medical Research (SSMF) Travel grant 50 000 SEK (4024 CHF)
2022	Adlerbertska Travel grant 30 000 SEK (2414 CHF)
2022	Foundation of Neurological Research (ISNF) Travel grant 12000 SEK (966 CHF)
2022	3MT University of Gothenburg finalist (3 minute thesis).
2021	EpiCare EEC Travel grant 1000 EUR
2021	Foundation of Neurological Research (ISNF) Travel grant 12000 SEK (966 CHF)

6. Supervision of Junior Researchers at Graduate and Postgraduate Level

Master student: Sarah Akel (2021)

7. CONFERENCE CONTRIBUTIONS

INVITED TALKS

2021   **Predicting epilepsy after single seizure using machine learning and EEG**. *Nordic AI Meet 2021 annual meeting, Oslo, Norway.*

2021   **Optimal treatment selection using register data**. *AAAI Spring Symposium, Survival Prediction: Algorithms, Challenges and Applications (SP-ACA), Online.*

POSTER PRESENTATIONS

2023	**Machine Learning for Personalized Selection of Anti-seizure Medication.** *Structural Epilepsy & Symptomatic Seizures (STESS), Gothenburg, Sweden*
2022	**Big data analysis of ASM retention rates and expert ASM algorithm: a comparative study.** *ILAE's 14th European Epilepsy Conference (EEC 2022), Geneva, Switzerland*
2022	**Machine Learning for Personalized Selection of Anti-seizure Medication.** *American Epilepsy Society (AES 2022), Nashville, USA [First author, not presenting due to research exchange]*
2021	**Causal Machine Learning for Personalized Selection of Anti-seizure Medication using Big Data from Registers.** *American Epilepsy Society (AES 2021), Chicago, USA*
2020	**Learning to search efficiently for causally near-optimal treatments.** *Advances in Neural Information Processing Systems 33 (NeurIPS 2020), Online (Vancouver, Canada)*

PRESENTATION DISCUSSANT

2021	**Sequential Core-Set Monte-Carlo.** *37th Conference on Uncertainty in Artificial Intelligence (UAI 2021), Online*

8. Institutional responsibilities

May 2022-June 2023	**Departmental Delegate** for Harassment prevention group, Sahlgrenska academy, Department of Clinical Neuroscience

9. Memberships in panels, boards, etc.

October 2023 –	B**oard member** AVETH, ETH Zürich
October 2023 –	**Coordinator (Head)** AVETH Postdoc+, ETH Zürich
November 2020 – June 2023	**Board member**, PhD student committee, Institute of Neuroscience and Physiology, Sahlgrenska Academy

10. Outreach activities

2023	**Invited talk**. *Epilepsy – is it possible to use AI to find the right medication?.* Karlstad Municipality
2023	**Invited talk**. *Machine learning for selection of anti-seizure medication.* Wallenberg Center for Translational Medicine
2021	**Poster presentation**. *AI for personalized epilepsy treatment*. Quality day, Sahlgrenska University Hospital.
2020	**Invited talk**, *Current research in epilepsy - for neurologists.* Sahlgrenska University Hospital

11. General contribution to science

2022-2023	**Setting up clinical trial.** Clinical trial to evaluate the effect of showing statistics from register data to inform treatment decision. Using the results that I computed for published papers and a website I developed as a basis, me and Prof. Dr. Johan Zelano collaborated with the county board to develop a new website showing our novel data to clinicians.
2022	**Reviewer** for **Acta Neurologica Scandinavia.**