Antoine Honoré, PhD

Postdoc

QUALIFICATIONS SUMMARY

- Doctoral studies focused on machine learning for healthcare.
- 5+ years of experiences in data science, deep learning, Python programming.
- Excellent autonomy and communication skills in multi-disciplinary environments.

CURRENTLY

KTH Royal Institute of Technology — Stockholm, Sweden

Postdoc (Funding: WASP-DDLS joint call) — November 2023 –
Advisors: Prof. Ming Xiao (KTH), Prof. Volker Lauschke (KI)
Project: Predicting Chemotherapy Sensitivity using Graph Neural Networks Based on Deep Mutational Scanning

EDUCATION

KTH Royal Institute of Technology — Stockholm, Sweden

Ph.D. Electrical Engineering — August 2023
Thesis Title: "Perspectives of Deep Learning for Neonatal Sepsis Detection"
Supervisor: Saikat Chatterjee. (Co: Eric Herlenius & Mikael Skoglund)
Link to thesis: diva2:1762032

KTH Royal Institute of Technology — Stockholm, Sweden
Grenoble INP PHELMA — Grenoble, France

M.Sc. (double), Electrical Engineering — August 2017
Majors: Signal Processing, Optimization.
Link to thesis: diva2:1109509

Lycée Victor Grignard — Cherbourg, France

Classe Préparatoire aux Grandes Ecoles (MPSI – MP) — 2011-2013
Majors: Mathematics and Theoretical Physics.

SKILLS

- Deep learning for clinical time series analysis.
- Theory and practice of signal processing, statistical modeling, optimization.
- Python programming, pandas, numpy, sklearn, pytorch+cuda, lightning, PostgreSQL, Rust, Powershell.
- Autonomy. Science Communication. Scientific Writing.

EXTRA-CURRICULAR

Contact: Slalomvägen 6, 12949, Hägersten, Sweden | +46704271829 | ahonore@pm.me
About me: Enjoys *tennis* and *running*. Formerly: local french league *basketball* player and referee. Interested in *sociology* and *politics*.
Languages: French (native), English (fluent), Swedish (basics). **Nationality**: French.

SELECTED PEER-REVIEWED PUBLICATIONS

[1] **Antoine Honoré**, David Forsberg, Katja Adolphson, Saikat Chatterjee, Kerstin Jost, Eric Herlenius. "Vital sign-based detection of sepsis in neonates using machine learning", *Acta Paediatrica*, (2023).
https://doi.org/10.1111/apa.16660

[2] **Antoine Honoré**, Henrik Siren, Ricardo Vinuesa, Saikat Chatterjee and Eric Herlenius. "An LSTM-based Recurrent Neural Network for Neonatal Sepsis Detection in Preterm Infants", *IEEE Signal Processing in Medicine and Biology Symposium*, (2022).
https://ieeexplore.ieee.org/document/10014948

[3] **Antoine Honoré**, Dong Liu, David Forsberg, Karen Coste, Eric Herlenius, Saikat Chatterjee and Mikael Skoglund. "Hidden Markov models for sepsis detection in preterm infants", *IEEE International Conference on Acoustics, Speech and Signal Processing,* (2020).
https://ieeexplore.ieee.org/document/9054635

[4] **Antoine Honoré**, Anubhab Ghosh, Saikat Chatterjee. "Compressed sensing of generative sparse-latent (GSL) signals", *European Signal Processing Conference, (2023)*.
https://ieeexplore.ieee.org/abstract/document/10289923

[5] Anubhab Ghosh, **Antoine Honoré**, Saikat Chatterjee, "DANSE: Data-driven Non-linear State Estimation of Model-free Process in Unsupervised Bayesian Setup", *European Signal Processing Conference, (2023)*.
https://ieeexplore.ieee.org/document/10289946

COLLABORATIONS

[1] Alexander Mildalen Stålhammar, **Antoine Honoré**, Katja Adolphson, David Forsberg, Eric Herlenius, Kerstin Jost. "Weight a minute: the smaller and more immature, the more predictable the autonomic regulation?", *Acta Paediatrica, (2023)*.
https://onlinelibrary.wiley.com/doi/full/10.1111/apa.16796

[2] David Forsberg, **Antoine Honoré**, Kerstin Jost, Emma Persad, Karen Coste, Saikat Chatterjee, Susanne Rautiainen, Eric Herlenius. "AIM in Neonatal and Pediatric Intensive Care". *In: Lidströmer, N., Ashrafian, H. (eds) Artificial Intelligence in Medicine. Springer, Cham.*
https://doi.org/10.1007/978-3-030-64573-1_309.

[3] Anna Clareus, **Antoine Honoré**, Gilbert Koch, Eric Herlenius and Kerstin Jost. "Medications and clinical decision support systems; how caffeine influences heart rate characteristics in preterm infants". *Pediatric Research 90 (SUPPL 1), 13-14*, (2021).

Research Programs

- WASP-DDLS Postdoc funding 2023-2025
- MedBioInfo Graduate School 2018-2023
- KTH Digital Futures Doctoral Program Research Grant 2018-2023

PRESENTATIONS

Seminars & Workshops

- Visit at Biomedical Diagnosis lab, Eindhoven University of Technology, The Netherlands. November 2023. **Invited talk**.
- "Health-related data and machine learning algorithms for healthcare". RISE Research Institutes of Sweden, Stockholm. October 2022. **Invited speaker**. https://kista.com/wp-content/uploads/2022/09/Workshop-Inbjudan-Halsodata-RISE_24-oktober.pdf
- "Hidden Markov Models for Sepsis Detection in Preterm Infants". Digitalize in Sthlm. November 2019. **Poster**.

Conferences

- "Compressed sensing of generative sparse-latent (GSL) signals", 2023, European Signal Processing Conference. **Poster**.
- "An LSTM-based Recurrent Neural Network for Neonatal Sepsis Detection in Preterm Infants". 2022 IEEE Signal Processing in Medicine and Biology Symposium. **Talk** (online).
- "Hidden Markov Models for Sepsis Detection in Preterm Infants". 2020 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP). **Poster** (online).
- "Large Neural Network Based Detection of Apnea, Bradycardia and Desaturation Events". NIPS ML4H 2017, Long Beach Convention Center, Long Beach, CA. **Poster**.

TEACHING EXPERIENCE

Teaching assistant

[1]	Pattern Recognition and Machine Learning.	Spring 2018, 2019
[2]	Speech and Audio Signal Processing.	Spring 2020, 2021, 2022, 2023
[3]	EP232U: Deep Neural Networks, Industry course.	Spring 2021, 2022
[4]	Machine Learning and Data Science.	Fall 2022

Master's Student Supervision

- Sarah Reichhuber (KTH), main-supervisor, Spring 2023.
- Henrik Siren (KTH), main-supervisor, Spring 2022. Link to thesis
- Carolin Danker (KTH), co-supervisor, Spring 2022. Link to thesis
- Lila van Breugel (Monash University, Australia), co-supervisor, Spring 2020.
- Jintai Liu (KI), co-supervisor, Spring 2020.
- Hanna Olsson (KI), co-supervisor, Autumn 2019.