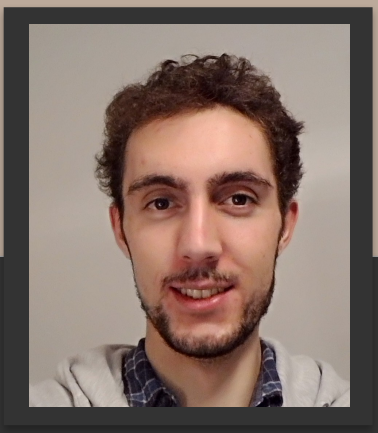

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Antoine Honoré, PhD

TLDR

AI Researcher with strong experience at the intersection of AI, biology and medicine. I have designed deep generative models for sepsis prediction in preterm infants from time series data. My current research focuses on multimodal data integration: protein structures, deep mutational scans and multiple sequence alignments, for variant effect prediction in drug transporter proteins.

RESEARCH

Postdoctoral Fellow | November 2023 –
Advancing AI in biology research with the department of physiology and pharmacology, Karolinska Institutet

Key contributions

- Design of large scale & novel deep learning architectures for multiple sequence alignment and deep mutational scans data
- Establishing benchmarks in protein variants effect predictors
- Conducting scientific research, student mentoring

Associated researcher | May 2023 –
Conducting and performing retrospective clinical studies with the neonatal transfusion network: Oxford, Charité Berlin, Karolinska Institutet

EDUCATION

Ph.D. Machine Learning and Biomedical Data | 2023
KTH Royal Institute of Technology, Stockholm, Sweden
Thesis: "Perspectives of Deep Learning for Neonatal Sepsis Detection"

Key outcomes

- AI/ML models for clinical decision support systems and the analysis of bedside monitoring time series
- Scientific publications, conference talks/posters (ICASSP, NIPS2017), invited talks (RISE, TU Eindhoven).
- Data integration pipeline for secure and efficient data querying, parsing and analysis from hospital database

Double M.Sc. Electrical Engineering | 2017
Grenoble INP-Phelma, Grenoble, France
& KTH Royal Institute of Technology
Majors: Signal Processing, Optimization, Machine learning.

Classe Préparatoire aux Grandes Ecoles (MPSI – MP) | 2013
Lycée Victor Grignard, Cherbourg, France
Majors: Mathematics and Theoretical Physics.

SHENANIGANS

- Improv theater, tennis, running
- Reading: sociology, economy

SKILLS HIGHLIGHT

Machine learning

i. Design, training, evaluation of custom deep learning models
ii. Deep generative AI models (VAE, Normalizing flows)
iii. Sequence/graph models (RNN, HMM, Transformers, GCN)
iv. Theory and practice of signal processing, convex optimization

Biomedical AI

i. Clinical decision support from **bedside time series**
ii. Variant effect prediction from **multimodal data**

Soft skills

i. Interdisciplinary collaboration in AI, biology and medicine
ii. Teaching, supervising, mentoring in research environment

Programming

i. Python (pandas, numpy, sklearn, **torch**+cuda, lightning),
ii. PostgreSQL, Rust, Powershell, **GNU/Linux**, git, bash.

LANGUAGES

i. English – Fluent
ii. French – Native
iii. Swedish – Basic