Erik Hartman

PhD Student in Computational Biology

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Born: 1999-09-04

Academic awards & personal grants

2024 **Career Development Grant**, *Singapore*, Grant: SGD 3,000
2024 **Young Promise in Engineering**, *Swedish Chamber of Commerce*, Award: €5,000
2024 **EMBO Fellowship Exchange Grant**, *Heidelberg, Germany*, Travel stipend: €9,000
2024 **Anders Wall Scholarship for Young Scientists**, *Stockholm, Sweden*, Award: €20,000
2021 **Best BSc Thesis, Clinical Innovation**, *Lund, Sweden*, Award: €1,000
2019 **Gold Medal, iGEM**, *Boston, USA*
2018 **3rd Place, Intel ISEF (Translational Medicine)**, *Pittsburgh, USA*
2018 **1st Place, National Science Competition for Young Scientists**, *Stockholm, Sweden*

Experience

Sep 2024 – 2025 **Internship**, *Agency for Science, Technology and Research (A*STAR)*, Singapore
Collaborated with Dr. Peter J. Bond as part of my PhD research. (Sponsored by EMBO.)

May 2024 – Present **PhD Student**, *Medical Faculty, Lund University*, Lund, Sweden
Conducting research in computational biology focusing on protein degradation mechanisms for diagnostic and therapeutic applications.

2020 – May 2024 **Researcher**, *Medical Faculty, Lund University*, Lund, Sweden
Worked in multiple groups at the Department of Infection Medicine.

Feb 2023 – July 2023 **Machine Learning Developer**, *Qlucore*, Lund, Sweden
Implemented machine learning algorithms to enhance omics data analysis.

Apr 2022 – June 2022 **Bioinformatic Consultant**, *Dianovator*, Malmö, Sweden
Developed a summary report system for insulin pump algorithms.

2019 – 2022 **Tutor & Lecturer**, *LTH and Various Institutions*, Lund, Sweden
Provided tutoring and lecturing in mathematics, chemistry, and data analysis at both high-school and university levels. Designed and supervised computer exercises for the course Data-driven Health (BMEN35) at LTH.

Selected publications

First-authored

2025 **Mining the endogenous peptidome for peptide binders with deep learning-driven optimization and molecular simulations**
bioRxiv
Hartman E., Samsudin F., Bond P.J., Schmidtchen A. and Malmström J.
DOI: 10.1101/2025.01.20.633551

2024 **Peptide clustering enhances large-scale analyses and reveals proteolytic signatures in mass spectrometry data**
Nature Communications
Hartman E., Forsberg F., Kjellström S., Petrlova J., Luo C., Scott A., Puthia M., Malmström J., Schmidtchen A.
DOI: 10.1038/s41467-024-51589-y

2023 **Interpreting biologically informed neural networks for enhanced biomarker discovery and pathway analysis**
Nature Communications
Hartman E., Scott A., Malmström L., Malmström J.
DOI: 10.1038/s41467-023-41146-4

Co-authored

2023 **Explainable machine learning for the identification of proteome states via the data processing kitchen sink**
bioRxiv
Scott, A.M., Hartman, E., Malmström, J., Malmström, L.
DOI: 10.1101/2023.08.30.555506

2023 **Selective protein aggregation confines and inhibits endotoxins in wounds: Linking host defense to amyloid formation**
iScience
Petrlova, J., Hartman, E., Petruk, G., Lim, J.C.H., Adav, S.S., Kjellström, S., Puthia, M., Schmidtchen, A.
DOI: 10.1016/j.isci.2023.107951

Education

2021–2022 **MSc in Biomedical Engineering**, *Faculty of Engineering, Lund University*, Sweden

2018–2021 **BSc in Biomedical Engineering with additional coursework in Molecular Biology**, *Faculty of Engineering, Lund University*, Sweden

Reviewing

Peer reviewer for: Nature Communications (1), Scientific Reports (2), Bioinformatic Advances (1), and Naunyn-Schmiedeberg's Archives of Pharmacology (1).

References

Availability References available upon request.