Lucas Hedström

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Current position

PhD Student, Umeå University, Umeå

Areas of specialisation

Biophysics; Statistical physics; Computational physics

Appointments held

2016–2019	Part time lab supervisor, Umeå University, Umeå
2016–2017	Part time teaching assistant (25%), Umeå University, Umeå
2018	Computational Engineer, BAE Systems Hägglunds, Örnsköldsvik

Education

2014–2019	MSc in Engineering Physics, Umeå University

Publications & talks

Thesis

2019	Hedström, L. (2019). Classifying the rotation of bacteria using neural networks.

Journal articles

2022	Hedström, Lucas and Lizana, Ludvig (2022), 'Modelling chromosome-wide target search' https://doi.org/10.48550/arXiv.2211.04195

Talks & Posters

2020	Talk at the EpiCoN conference about Hi-C upscaling using machine learning.
2020	Poster at the EpiChrom conference about Hi-C upscaling using machine learning.
2022	Talk at the MBM2022 conference about protein search on DNA.
2022	Poster at the EpiChrom conference about protein search on DNA.

Teaching & Supervision

Supervision

2019-   Internal supervision of master's thesis
I have been the internal supervisor (assisting with writing of the thesis) of four successful master's thesis.
Söderström, S. (2020). Detect obstacles for forest machinery from laser scanned data.
Dahlbäck, M. (2020). Evaluation of models for process time delay estimation in a pulp bleaching plant.
Vikström, A. (2021). A comparison of different machine learning algorithms applied to hyperspectral data analysis.
Kiflemariam, M. (2021). Development of a CFD Boundary Condition to Simulate a Perforated Surface.

Courses

2016-   Foundations in Electromagnetism, Electrodynamics, Advanced Fluid Mechanics
Computer lab supervision and examinations. Later years head of labs.
2020-   Mekanik och energifysik
Head of practical labs. Supervision and examinations.
2020-   Modeling and Simmulations, Dynamical models of living systems
Head of computer labs. Reworked old and made new labs. A few lectures.

Service to the profession

2019   Development of study help tool Röda Tråden
Used by students at the engineering physics programme at Umeå University personalize their education
2010   Stride at the Physics Department at Umeå Unversity
Deployed and made refinements to a tool by the computing science department at Umeå University which helps PhD students make their ISPs
2020–2022   Student representant in the research committee at TekNat faculty

Last updated: November 9, 2022