

Enabling the Future Collaborative Robot

ELLIIT Focus Period Fall 2025: Robot Learning



*The RobotLab infrastructure will be central for fall 2025 focus period on robot learning.
Photo: Susanna Lönnqvist.*

Research on robot learning spans from interpretation of sensing data to a robot executing actions in the real world, disciplines the organizers of the ELLIIT focus period on robot learning now bring together in Lund from beginning of November. [Read more on the topic >>](#)

The focus period on Robot Learning takes place in Lund from November 3 to December 5. The focus period symposium is organized November 18-20.

> [Register here for the focus period symposium, by October 31](#)

> [See the invited speakers](#)

> [Meet the visiting scholars](#)

> [See the visiting scholars seminar series program](#)



ELLIIT focus period spring 2025 symposium attendees. Photo: Simon Höckerbo

ELLIIT Focus Periods Spring 2026: Linköping & Lund

In spring 2026, two focus periods will be organized, one in Linköping and one in Lund.

The topic for the Linköping focus period is **Wireless Sensing Technologies for Emerging Applications** and takes place April 7-May 8. The three day symposium is April 21-23.

The Lund focus period is on **Optimization for Learning**, and takes place April 20-May 22. The symposium is May 6-8.

ELLIIT Annual Workshop Next Week

The annual ELLIIT Workshop 2025 will take place in Norrköping, October 21- 22.

The program is available [here](#).

Program chair is **Ingrid Hotz**, together with co-chairs Jonas Unger and Ehsan Miandji.

The robotics lab at Lund University is an ELLIIT infrastructure, open to ELLIIT researchers >>

Open ELLIIT Call: Call G

ELLIIT call G for Ph.D. student projects to run 2026-2030 had deadline to submit pre-proposals September 1. The process of evaluations is ongoing and decisions will be announced in November.

ELLIIT Call F

Applications to ELLIIT call F are being processed, decisions will be announced to main applicant late October.

Gender & Diversity Projects 2025

In total, seven proposals were submitted to the 2025 gender & diversity project call. Funding decisions will be made during October. The call is annual.

LiU Excellence Center AI4X

Linköping University is establishing four centers of excellence, to provide the university's most prominent and innovative research environments with a clearer structure and more long-term support.

One of the four centers is Excellence Center for Artificial Intelligence and Integrated Computer Systems (AI4X) under the leadership of Professor Fredrik Heintz. Michael Felsberg, and Fredrik Lindsten are part of the center. The funding is 25 MSEK per year for four years.

LiU announcement and interview with Fredrik Heintz

VR Network Grants

ELLIIT researchers have secured Network grants for planning future excellence clusters for groundbreaking technologies from Vetenskapsrådet (VR):

Karl Åström (LU) for "Swedish Excellence Cluster in Spatial AI and Positioning."

Michael Felsberg (LiU) for "What are Hilbert's 23 problems of AI?"

The purpose of the grant is to enable a constellation of researchers to plan for a future application for funding aimed at establishing clusters of excellence in groundbreaking technologies, with a focus on future technological areas.

Vinnova Cluster of Excellence

ELLIIT researchers have secured pre-project grants in the call for Vinnova Clusters of Excellence for Cutting-Edge Technologies:

Volker Krüger (LU) for "Automate Sweden: A supply-chain of sustainable robotics technologies, from research to shop floor."

Mike Dogget (LU) for "GaMeAT - Gaming and Media AI Tools."

Fredrik Tufvesson (LU) for "Advanced Connectivity - Driving Research and Innovation in Future Digital Technologies."

Gunnar Cedersund (LiU) for "M4-HEALTH: a new model for health using digital twins and AI."

In this first call, applicants could receive planning grants to formulate a bold vision for an excellence cluster, mobilize the right actors, and develop an overall plan to realize the vision.

WASP-HS funding

Together with researchers at Uppsala University, Umeå University and the Royal Institute of Technology, Tom Ziemke (LiU) has received 11.5 MSEK for a five-year research collaboration on "Child Development in the Age of AI and Social Robots" from WASP-HS, the Wallenberg AI, Autonomous Systems and Software Program – Humanity and Society. Tom Ziemke coordinates the research theme "Children's perception of AI and the development of AI literacy."

ELLIIT LinkedIn

An ELLIIT LinkedIn page is in the works.
Follow and stay tuned...



Steering group member and report on Resilient Digital Infrastructure

Simin Nadjm-Tehrani (LiU) has acted as a member of steering group and led a working group within a project at Swedish engineering sciences academy (IVA) that gave a final report on the theme “Resilient Digital Infrastructure” presented at a seminar on September 24.

[See the recorded seminar here \(in Swedish\)](#)

[Find the project and final report here](#)

ELLIIT supported students present at IEEE conferences

Twelve master students of the Master’s Programme in Embedded and Intelligent Systems at Halmstad University were invited to present their ELLIIT supported work at four international conferences this summer.

[Read the news feature about the outreach by Halmstad University](#)



Basudeo Narayan Shrestha and Gloria Soumya Francis presenting at the 5th IEEE International Mediterranean Conference on Communications and Networking.

Awards & Appointments

EURASIP Fellow

Erik G. Larsson has been elected Fellow of EURASIP, The European Society for Signal Processing, for his contributions to multi-antenna wireless technology.

Each year, a select group of signal processing researchers are elevated to ‘EURASIP Fellow’, the Association’s most prestigious honor.



Erik G. Larsson at the EUSIPCO conference in September 2025.

Future Innovations Awards

Lund University and Sparbanken Skåne's Future Innovations Award has been held since 2017. This year, an honorary award in the employee category was presented to Johan Lundgren (LU), together with Mattias Borg and Johannes Svensson for their project Detecting greenhouse gas leaks with room-temperature camera sensor.

[Read more on the winning project and the other awards](#)



2025 winners at the LU Innovations Awards ceremony

Selected Publications

In this issue we highlight two publications from the ELLIIT environment, where methodologies from ELLIIT subject matters have been deployed in adjacent areas, resulting in publications in high impact journals in medicine and genetics:

Idrisoglu, Ana Luiza Dallora Moraes, Abbas Cheddad, Peter Anderberg, Andreas Jakobsson, Johan Sanmartin Berglund. Vowel segmentation impact on machine learning classification for chronic obstructive pulmonary disease. Scientific Reports 15, 9930 (2025) >>

Vowel-based voice analysis is gaining attention as a potential non-invasive tool for COPD (chronic obstructive pulmonary disease) classification. This research involves training individual machine learning models using three distinct dataset constructions: full-sequence, segment-wise, and group-wise, derived from the utterance of the vowel "a", and study findings suggest that time-sensitive properties in vowel production are important for COPD classification and that segmentation can aid in capturing these properties.

Andreas Jakobsson is ELLIIT researcher at LU, professor in the Statistical Signal Processing Group.

Xiao-Pan Hu, Bayu Brahmantio, Krzysztof Bartoszek, Martin J Lercher. Most bacterial gene families are biased toward specific chromosomal positions. Science 388,186-191(2025) >>

How genes are arranged along the chromosomes in bacteria affects how they are expressed, and genes located close to starting points of where genes are read from are more likely to be expressed during growth. This work shows that many genes are biased towards other positions along the chromosomes. They demonstrate that many more genes are positionally constrained in bacteria than was previously thought, possibly providing insight into the function of uncharacterized genes.

Bayu Brahmantio (PhD student) and Krzysztof Bartoszek are ELLIIT researchers at LiU, and this publication was part of Bayu Brahmantio's half time seminar and evaluation.

Accepted: M. Borhani, I. Avgouleas, M. Liyanage, A. Gurtov. Secure Scalable VPLS: A Lagrangian Relaxation Approach to Tunnel Relaying Optimization. IEEE Transactions on Networking, 2025.

Virtual Private LAN Service (VPLS) is commonly used for secure multi-point communication across geographically scattered industrial sites, simulating a unified LAN broadcast domain for Industrial IoT (IIoT)-type devices. This work introduces Tunnel Relay Nodes (TRNs) as selected routers that maintain full-mesh connectivity.

Ahmed, T., & Kowalkowski, C. (2025). The new industry playbook: digital service innovation in multi-platform ecosystems. Journal of Enterprise Information Management. >>

The study advances platform literature by showing how B2B firms orchestrate multi-platform ecosystems for digital service innovation, identifying five platform types shaped by distinct Actor-Resources-Activities constellations. The work introduces the concept of customized technology adapters as key tools to integrate complementors on the platforms and extend their interoperability.

Upcoming Defenses

Doctoral Defense:

Filip Ekström Kelvinius, Statistics and Machine Learning >>

Time: November 7, at 13:15
Place: Linköping, Ada Lovelace (B-building)

Dissertations

Manu Upadhyaya
>> Lyapunov analyses for first-order methods: Theory, automation, and algorithm design

Matthias Wagner
>> Software engineering and the AI Act: towards regulatory-compliant AI (Lic)

Momina Rizwan
>> Safety and Reliability for Autonomous Robots in Dynamic Environments

Faseeh Ahmad
>> Towards self-reliant robots: Skill learning, failure recovery, and real-time adaptation: Integrating behavior trees, reinforcement learning, and vision-language models for robust robotic autonomy

Jianan Bai
>> Enabling Technologies for Latency-Critical Wireless Systems

Johan Edstedt
>> Towards the Next Generation of 3D Reconstruction

Lo Gullstrand Heander
>> Licentiate thesis and article about the work on the LTH Faculty of Engineering homepage

Meet the Recruited Faculty



Tom Ziemke

How do people understand different types of AI and autonomous systems? This is one of the questions that Tom Ziemke is exploring. We spoke with him about human-robot interactions, children's engagement with AI, and female role models in STEM.

Meet Tom Ziemke >>

Did you know...



...that the ELLIIT research focus periods have been organized since 2022? The first one took place in Lund in spring 2022 and the topic was Data-driven modelling and learning for cancer immunotherapy.

Throwback