

# **Women in Machine Learning Workshop**

## **Join the community and take part in shaping the future!**

### **About the workshop**

Machine Learning (ML) is undeniably at the cutting edge of technological advancement today. ML tools are already influencing contemporary society, and they are believed to have the potential to drive revolutionary changes in both research and everyday life by transforming a wide range of fields, including healthcare, cybersecurity, and transportation. Given its capacity to create such profound impact, it is essential for all segments of society to participate in its development. However, multiple groups are currently underrepresented within the field, including women and non-binary groups. The primary goal of the “Women in Machine Learning Workshop - Join the community and take part in shaping the future!” is to help reduce this gender imbalance.

The “Women in Machine Learning Workshop - Join the community and take part in shaping the future!” aims to bring together both beginners and experts to connect, gain inspiration, and deepen their understanding of machine learning and the ongoing research in the field. It is a lunch-to-lunch event that includes talks by leading female researchers and industry representatives, as well as a tutorial and panel discussion.

# Agenda

## Tentative schedule

Please note that the schedule is subject to change. We will make every effort to keep the information updated.

Time	Day 1	Day 2
8.00-8.30		
8.30-9.00		
9.00-9.30		Industry Session
9.30-10.00		
10.00-10.30		Fika
10.30-11.00		Panel discussion
11.00-11.30		
11.30-12.00		End of Program
12.00-12.30	Lunch (Pegs and Tails)	Lunch (Visionen)
12.30-13.00		
13.00-13.30	Start of Program (13.15)	
13.30-14.00	Key Note 1	
14.00-14.30		
14.30-15.00	Key Note 2	
15.00-15.30		
15.30-16.00	Fika	
16.00-16.30		
16.30-17.00	Tutorial	
17.00-17.30		
17.30-18.00		
18.00-18.30		
18.30-19.00		
19.00-	Dinner (Scandic)	

### Key Note 1: A (nearly) random walk through machine learning applications

Speaker: Judith Bütepage (PhD, ML Team Lead, Electronic Arts)

Abstract: Career paths are rarely linear. Especially in machine learning, with its myriad of applications, we have the opportunity to solve problems in many different domains. To demonstrate what a career path in machine learning might look like, I will walk you through my own career so far. I will talk about generative models, robotics, computational neuroscience, computer vision, fraud detection, animations and uncertainty in machine learning models. I will also discuss the problems I have faced, the choices I have made and some lessons I have learned. My hope is that this talk can both be an inspiration as well as take away some concerns that aspiring machine learning practitioners might have.

### Key Note 2: Machine Learning for Anomaly and Change Detection

Speaker: Shizhen Chang (PhD, Assistant Professor, Linköping University)

Abstract: In this talk, I will present a series of research advancements focused on designing machine learning algorithms for anomaly and change detection. These algorithms aim to enhance the accuracy and efficiency of detecting subtle changes and anomalies in various remote sensing applications. I will cover approaches for anomaly detection in hyperspectral images, anomalous change detection, and techniques for change detection and change captioning in optical imagery.

## **Tutorial: Live music coding with AI voice samples**

Tutorial leader: Kelsey Cotton (PhD student, Chalmers University of Technology)

**Abstract.** This tutorial is a practical session, offering participants an entry point to exploring voice cloning and synthesis with open-source AI voice technologies. Together, we will utilise voice cloning and synthesis models such as CoquiTTS to create personalised sample banks of participants' voices, which we will later implement into a live coding platform (strudelREPL) to create music in real-time.

The session is designed to be accessible for individuals from all technical backgrounds, and emphasises creative experimentation over technical expertise. Whether you are new to coding and music programming or have prior experience, this tutorial will guide you through the basics of working with AI voice models, live music coding and demonstrate how AI voice technologies can be used in practical and creative ways. By the end of the session, participants will have gained practical insights into how AI-driven voice technologies function and how they can be applied in creative contexts.

*Please bring a laptop and headphones to fully engage with the interactive components of the workshop.*

## **Industry Session**

Interested in how machine learning is used within industry? Join our industry session, which will focus on the application of machine learning within companies. Hear from company representatives, including women who have chosen to transition to industry roles after completing their PhDs, sharing insights about the current use and implementation of machine learning in their respective organizations.

Represented companies and speakers:

Visual Sweden: Julia Bergman

Maxar Intelligence: Amanda Berg (Research Developer)

Sectra: Karin Stacke (Research Scientist)

Husqvarna: Saga Bergdahl (Software Engineer), Elsa Björling (Software Engineer)

Combitech: Frida Blomstedt (Software Engineer Computer Vision), Erika Anderskär (Data Scientist)

## **Panel discussion: Navigating a career in machine learning**

Panelists: Erika Anderskär (Data Scientist, Combitech), Judith Bütepage (ML Team Lead, Electronic Arts), Jenny Kunz (Postdoctoral Researcher, Linköping University), Karin Stacke (Research Scientist, Sectra)

Moderator: Melisa Maidana Capitan (Postdoctoral Researcher, Linköping University)

**Description.** Take the opportunity to learn from women with valuable experience in the field of machine learning. This panel discussion provides valuable insights and practical advice for navigating a career within the field, both in academia and in industry.

The panel discussion will cover the following topics:

- Career pathways and choices
- Staying updated in a rapidly evolving field
- Building collaborations across sectors and disciplines
- The societal impact of machine learning research: Responsibility, fairness and diversity

At the end of the session, we will open the floor for questions, giving attendees the chance to engage directly with the panelists.

# Organization

This workshop is organized by representatives from Linköping University (LiU) and Chalmers University of Technology, in collaboration with the Wallenberg AI, Autonomous Systems and Software Program (WASP) Diversity and Inclusion Group.

## **Organization committee:**

Amanda Berg (LiU, Maxar Intelligence)  
Kelsey Cotton (Chalmers)  
Fredrik Lindsten (LiU)  
Melisa Maidana Captian (LiU)  
Amanda Olmin (LiU)  
Jolanta Pielaszkiewicz (LiU)  
Lena Stempfle (Chalmers)  
Yushan Zhang (LiU)

## **WASP Diversity and Inclusion Group (WASP-DIG):**

Amandine Caut (Uppsala University)  
Mikael Johansson (KTH)  
Amy Loufti (Örebro University)  
Alma Persson (LiU)  
Per Runesson (Lund University)  
Mary Sheeran (Chalmers)

## **WASP coordinators and communication officers:**

Elina Hjertström (LiU)  
Natalie Pintar (LiU)  
Camilla Smedberg (LiU)

# Important Dates

## **Event:**

November 21st-22nd, 2024

## **End of registration:**

November 6th, 2024

# Venue

## **Main Conference:**

Ada Lovelace (Linköping University, Campus Valla, House B, Entrance 27, Floor 2).

## **Lunch (Day 1):**

Pegs and Tails (Universitetsvägen 8, 583 30 Linköping, close to Linköping University, Campus Valla)

## **Dinner (Day 1):**

Scandic Frimurarehotellet (S:t Larsgatan 14, 582 24 Linköping)

## **Lunch (Day 2):**

Visionen (Linköping University, Campus Valla, House B, Entrance 27, Floor 2)

## **Contact**

For any questions or issues related to the workshop please contact:

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## **Sponsors**

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