

Preliminary program for PhD Workshop @ ISY 2024 on 27 August

Place: Ada Lovelace, building B, Campus Valla

8:30—8:40 **Opening and welcome** (host *Mark Vesterbacka*)

8:45—09:45 **Where are we going?** (chair *Fatemeh Hashemniya*)
Uncertainty quantification metrics for deep regression
Ziliang Xiong

Energy harvesting in IoT — biomedical applications
Wei Cao

Energy-efficient neural networks for quantum error correction
Ran Huo

Coffee

10:15—10:55 **Efficient communication** (chair *Olle Hansson*)
Mixed-timescale differential coding for downlink model broadcast in wireless federated learning
Chung-Hsuan Hu

Design and optimization of chromatic dispersion compensation FIR filter for fiber optic communication
Cheolyong Bae

11:00—12:00 **On the road** (chair *Amina Coric*)
Diffusion-based generative trajectory forecasting
Theodor Westny

Surrogate safety metric for articulated vehicles
Abhijeet Behera

Estimation of remaining life for a battery
Arezou Safdari

Lunch break

13:00—14:00 **Approximating devices** (chair *Narges Mohammadi Sarband*)
Leveraging dynamic range analysis for efficient post-training quantization in graph convolutional networks
Hadi Mousanejad Jeddi

Low-complexity memoryless linearizer for analog-to-digital interfaces
Dejjany Rodríguez Linares

Joint logarithm-sigmoid approximations for deep neural networks with logarithmic multipliers
Theodor Lindberg

14:05—14:45 **Parameter estimation** (chair *Ziliang Xiong*)
Bias compensation for dynamic estimation
Richa Verma

Over-the-air computation
Martin Dahl

Coffee

15:15—15:55 **New design** (chair *Mikael Henriksson*)
Efficient design and implementation of fast-convolution-based variable-bandwidth filters
Oksana Moryakova

Novel approach to analyze graph-structured data
Abdolvahab Khalili Sadaghiani

Party

16:30 Best presentation award ceremony (jury *Robert Malmqvist, Robert Hägglund, and Robert Forchheimer*)