

SANJA KARILANOVA

PhD candidate working on signal processing and machine learning.
Interested in developing learning algorithms and analysis methods
as well as applying them in engineering applications.

EDUCATION

OCT 2021 – PRESENT

PH.D. CANDIDATE IN ELECTRICAL ENGINEERING

UPPSALA UNIVERSITY – UPPSALA, SWEDEN

- Specialization: Signal Processing using Spiking Neural Networks
- Supervisor: Dr. Ayça Özçelikkale

SEP 2017 – JUN 2021

BACHELOR AND MASTER OF MATHEMATICS AND STATISTICS

UNIVERSITY OF MANCHESTER – MANCHESTER, UK

- Program: MMath (Honours) Mathematics and Statistics
- GPA: 1st class / 1st class
- Master thesis “Mixture Autoregressive Models with Applications to Value-at-Risk and Expected Shortfall” supervised by Prof. Georgi Boshnakov

SEP 2013 – JUN 2017

HIGH SCHOOL DIPLOMA IN SCIENCE

PRIVATE YAHYA KEMAL COLLEGE – SKOPJE, NORTH MACEDONIA

- Full scholarship granted due to my excellent performance on the entrance exam
- High School Valedictorian
- GPA: 5/5

WORK EXPERIENCE

OCT 2021 - PRESENT

TEACHING ASSISTANT

UPPSALA UNIVERSITY – UPPSALA, SWEDEN

Independently holding exercise classes twice per year for the course “Signals and Systems”.

OCT 2019 – JUN 2021

TEACHING ASSISTANT

UNIVERSITY OF MANCHESTER – MANCHESTER, UK

Assisting professors with exercise classes in multiple courses for example: “Introductcion to financial mathematics” and “Probability 2”.

JUN 2019 – JUN 2021

STUDENT AMBASSADOR

UNIVERSITY OF MANCHESTER – MANCHESTER, UK

Promoting the University and talking to prospective students at University’s welcome fairs and open days as well assisting with reception, live-chat and campus tours.

AUG 2019 – SEP 2019

STATISTICIAN INTERN

NATIONAL OFFICE FOR STATISTICS – SKOPJE, NORTH MACEDONIA

Worked on big data using Excel and R as part of the department of mathematical and statistical methods.

AUG 2018 – SEP 2018

RISK ADMINISTRATOR INTERN

SOCIETE GENERALE BANK – SKOPJE, NORTH MACEDONIA

Analysing and predicting financial data in order to indicate potential credit risk.

PUBLICATIONS:

- Sanja Karilanova**, Subhrakanti Dey, Ayça Özçelikkale - "State-Space Model Inspired Multiple-Input Multiple-Output Spiking Neurons" - Neuro-Inspired Computational Elements Conference (NICE) 2025
- Sanja Karilanova**, Maxime Fabre, et al. - "Zero-Shot Temporal Resolution Domain Adaptation for Spiking Neural Networks" - pre-print on Arxiv 2024
- Libo Chen, **Sanja Karilanova**, et al. - "Spike timing–based coding in neuromimetic tactile system enables dynamic object classification" - Science 2024

AWARDS AND ACHIVEMENTS

ALLMAN PRIZE BY THE UNIVERSITY OF MANCHESTER

For achieving high standard of attainment during studies including statistics (2021)

PYTHON CODING COMPETITION BY THE UNIVERSITY OF MANCHESTER

Second place (2019)

34th BALKAN MATHEMATICS OLYMPIAD

Member of the National Macedonian Representation (2017)

INTERNATIONAL MATHEMATICAL MEDITERRANEAN OLYMPIAD

Honorable mention (2017) and Bronze medal (2016)

NATIONAL MACEDONIAN MATHEMATICS OLYMPIAD

Gold medal (2017) and Bronze medal (2016)

GRANTS

MAR 2025 - LILJEWALCH TRAVEL SCHOLARSHIP

To fund one week participation at the IEEE/ACM NICE Conference 2025 in Heidelberg, Germany

MAY 2024 - THE ERICSSON RESEARCH FOUNDATION

To fund two weeks participation at the CapoCaccia Neuromorphic Workshop 2024 in Sardinia, Italy

DEC 2023 - HF SODERHOLM'S SCHOLARSHIP FOUNDATION

To fund one week research visit at prof. Friedmann Zenke's group at Friedrich Miescher Institute, Switzerland

MAY 2023 - THE ERICSSON RESEARCH FOUNDATION

To fund three weeks research visit at prof. Emre Neftci's group at Research Centre Julich, Germany

CONTACT

- Email: sanja.karilanova@angstrom.uu.se
- Personal website: <https://sanjakarilanova.github.io/>
- Linkedin: <https://www.linkedin.com/in/sanjakarilanova/>