Maksim Makarenko

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Summary

Ph.D. student in Electrical and Computer Engineering seeks a research intern (Machine Learning) opportunity to expand skills and gain valuable academic experience. My current research is centered around a hardware implementation of a new generation of artificial intelligent information-processing devices. This research lies in the intersection of three different ML-related fields: Computer Vision, Probabilistic Machine Learning (Bayesian inference), and data-driven modeling. My work is fully theoretical and includes all the typical research stages, from developing of the mathematical foundations for our systems and their software implementation, to writing papers and grant applications.

Experience

Doctoral Student

KAUST (King Abdullah University of Science and Technology)

Aug 2018 - Present (3 years +)

Our project is centered around hardware implementation of ML-related systems. We research on exotic light states and a new generation of artificial intelligent information processing devices, including optical neurophotonics, integrated chips. In our experimental group, I am working as a theoretician, and my responsibility is studying and developing of the mathematical foundations for our intelligent systems and their validation with a simulation software developing in our group. We publish the results of our work in leading journals and top-tier conferences in the field, including Nature family journals.

Graduate Research Assistant

Novosibirsk State University (NSU)

Aug 2012 - Aug 2016 (4 years 1 month)

Theoretical and computational study of nonlinear dynamics in coupled fiber systems. I developed a mathematical and computational framework for study PT-symmetry transition in fiber-ring laser. We published the main results of our work in Photonics Research journal and top-tier conferences.

Undergraduate Research Assistant

Novosibirsk State University (NSU)

Aug 2012 - Aug 2016 (4 years 1 month)

Theoretical study of nonlinear dynamics arising in parametric-light-generators.

Education

KAUST (King Abdullah University of Science and Technology)

Doctor of Philosophy - PhD, Electrical and Computer Engineering

2018 - 2022

Novosibirsk State University (NSU)

Master's degree, Physics
2016 - 2018

Novosibirsk State University (NSU)
Bachelor's degree, Physics
2012 - 2016

Licenses & Certifications

Introduction to Algorithms - Yandex

Bayesian Statistics: Mixture Models - University of California, Santa Cruz

Bayesian Statistics: Techniques and Models - University of California, Santa Cruz

Bayesian Statistics: From Concept to Data Analysis - University of California, Santa Cruz

Skills

Scientific Writing • Computer Vision • Machine Learning • C++ • Python (Programming Language) • TensorFlow • PyTorch • Seaborn • PyMC3 • R

Honors & Awards

AI Initiative Fund (100k USD) - KAUST (King Abdullah University of Science and Technology)
Jul 2021
Funds for projects that tackle important research problems in core AI and its applications.

Teaching Assistant Award - KAUST (King Abdullah University of Science and Technology)
Aug 2019
The recipient for TA of Principles of Optics course, 2019-2020.

Dean Award - KAUST (King Abdullah University of Science and Technology)
Aug 2018
Additional allowance for talented students.

PhD Fellowship - KAUST (King Abdullah University of Science and Technology)
Mar 2018
The recipient for 4 consecutive years, 2018-2022.