Jurijs Nazarovs

UW - Madison	*Website:* **jurijsnazarovs.github.io**
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RESEARCH EXPERIENCE

Microsoft Research (MSR) Internship May 2021 - Present
Developing temporal probabilistic deep learning for defensive cyber domain.

NEC Labs America, Research Internship May 2020 - August 2020
Proposed a new triplet-based loss function and a framework for ordinal time series classification problem robust against missing labels. Submitted first author paper.

UW - Madison, Research Assistant to Professor Vikas Singh 2019 - Present
Focus on statistical and computational aspects of temporal problems (in vision) and deep probabilistic models, such as Bayesian Neural Networks and Neural Stochastic Differential Equations.

UW - Madison, Research Assistant to Professor Sunduz Keles 2016 - 2018

High throughput computing framework

- Developed high throughput framework based on HTCondor for managing pipelines, ParDim **(GitHub)**.
- Contributed to the analysis of ChIP-Seq experiments **(GitHub)** and acknowledged by Nature paper, Expanded encyclopaedias of DNA elements in the human and mouse genomes.

Publications

A Variational Approximation for Analyzing the Dynamics of Panel data, UAI 2021 (26% acceptance rate). Proposed the Mixed-Effect Neural ODE model and the new ELBO-based loss, which allows to model uncertainty similar to SDE, but use ODE solvers.

Graph Reparameterization for enabling 1000+ Monte Carlo Iterations in Bayesian Deep Neural Networks, UAI 2021 (26% acceptance rate). Proposed a new framework to construct an MC estimator for the KL term, which significantly decreases GPU memory needed to run VI version of Bayesian Neural networks and improves runtime. Memory savings allow us to run up to 1000 or more MC iterations on a single GPU.

Statistical testing and estimating p-values from Uncertainty Maps in Vision. Submitted.

Ordinal Quadruplet: Retrieval of Missing Labels in Ordinal Time Series. Submitted.

EDUCATION

University of Wisconsin - Madison, Madison, WI 2016 - 2022 [Expected]
PhD, Statistics

University of Wisconsin - Madison, Madison, WI 2019 - 2020
Master of Science, Computer Science

Duke University, Durham, NC 2014-2016
Master of Arts, Economics

Higher School of Economics, Moscow, Russia 2010-2014
Bachelor of Science, Applied Mathematics and Computer Science

SKILLS

Machine Learning, Deep Learning, Bayesian Neural Networks, Temporal Analysis, Computer Vision

Programming: Python (PyTorch, TensorFlow), R, bash, Matlab, Java, C++

Languages: English, Russian