Christina Brester, PhD

AI and ML Specialist | Data Scientist | Data Analyst

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Wide hands-on experience in applied research with a focus on machine learning and optimization: predictive modeling with structured data / time series data / time-to-event data, deep learning, evolutionary algorithms, multi-objective optimization, inverse mathematical modeling and system identification

Experience

Researcher, University of Eastern Finland February 2018 – Present time

- PhD thesis "Evolutionary machine learning in epidemiological predictive modeling: Examples from the Kuopio Ischemic Heart Disease Risk Factor Study", *December 2022*
- Other completed projects (in collaboration): day ahead solar PV forecasting (FMI), weather-based fault prediction in electricity networks (LUT), short-term load forecasting in energy systems (VTT), load control detection based on power quality (TAU), predicting bacterial abundances in drinking water (THL)
- Teaching Environmental Data Mining and Advanced Data Mining

Docent, Siberian State University of Science and Technology September 2016 – January 2018

- Teaching differential and integral calculus, linear algebra, analytical geometry (for engineering and economics students)
- Preparing grant applications: received funding as a leader of three projects
- Developing new meta heuristics for inverse mathematical modeling

Visiting Researcher, University of Eastern Finland October 2015 – August 2016

- Implementing methods for automated variable selection and building predictive models on high-dimensional epidemiological data

Intern, Ulm University September 2013 – May 2014

- Developing methods for human emotion recognition, human gender recognition and human identification from speech (8 months remotely and 1 month on-site)

Analyst, Siberian Integration Systems April 2012 – January 2013

- Reviewing software specifications, testing the mobile application for monitoring and planning business processes in a company, preparing its documentation

Awards and merits

- Chairing sessions at the IEEE CEC (2020) and IJCCI (2019) conferences
- EDUFI Fellowship, Finland: a start-up grant for doctoral level students, 2018
- Russian Presidential Fellowship, 2018 (personal research grant), 2015 (studying abroad)
- DAAD Scholarship, Germany: Leonhard-Euler Scholarship Program, 2013

Education

- Siberian State Aerospace University, Russia
  Candidate of Technical Sciences, thesis "Cooperative evolutionary method for multi-objective optimization in speech analysis", 2016
- Siberian State Aerospace University, Russia
  MSc in System Analysis and Control, diploma with honors 5.0/5.0, 2014

Latest certifications

- Fundamentals of Deep Learning (NVIDIA, 2022)
- Introduction to Machine Learning in Production, Machine Learning Data Lifecycle in Production (DeepLearning.AI, 2022)
- Sequence Models; AI for Medical Prognosis (DeepLearning.AI, 2021)

Mostly use

Python
numpy
pandas
scipy
keras
tensorflow
scikit-learn
matplotlib
plotly
bokeh

Some experience

C++
R
MATLAB
Weka
jMetal
RapidMiner
SQL
TFX

Publications in

Biostatistics & Epidemiology
Annals of Epidemiology
Healthcare
Annals of Medicine
BioData Mining
IEEE Access
Energy
STOTEN

Conferences

CIRED
IEEE CEC
GECCO
INTERSPEECH
LREC
ICINCO
IJCCI