Contact

www.linkedin.com/in/svetlanakharlamova (LinkedIn)

Top Skills

People Management
Ad Tech
Reinforcement Learning

Languages

Ukrainian (Elementary)
Russian (Full Professional)
English (Full Professional)

Certifications

Intel Edge AI Certification

Publications

Low-temperature structural and magnetic phase transitions in multiferroic GdFe3(BO3)4

Spin Crossover and Thermal Conductivity in the Earth's Lower Mantle

Pressure-induced phase transitions and electron spin state changes in iron-bearing spinels

New structure of high-pressure body-centered orthorhombic Fe2SiO4

Structural and electronic transitions in gadolinium iron borate GdFe3(BO3)4 at high pressures

Patents

Crowd Sourced Real-Time Search Engine Filters And User Interfaces

Power Harvesting Inventory Management System With Identity Verification

Svetlana Kharlamova, Ph.D.

Data Science | Machine Learning | Deep Learning | Artificial Intelligence | Algorithms | IoT | Edge AI | Leadership | Strategy | Global Public-Private Partnership Leader & Adviser

Greater Chicago Area

Summary

HIGHLIGHTS

Machine Learning (ML) and Artificial Intelligence (AI) aligner, strategic visionary, and decision-maker, building and managing world-class teams that deliver results. A PhD quant, Technology & Data Science leader with extensive experience in ML, AI, and Data Engineering Strategy. Strategize the development of new innovative omni-channel customer-centric platforms, its network architecture, big data engineering, App software, and AI capabilities. Manage and lead Data Science & AI, MLOps, and Data Engineering teams. Partner with functional teams such as Business, Product, DevOps, Front-end, Back-end, and external clients to identify business needs and translate those into the actionable mathematical and digitally intelligent solutions. Educate internal/external stakeholders and customers on product capabilities powered by statistical or predictive modeling, machine, or deep learning. I have an outstanding record developing quantitative, ML, AI models, and analytics solutions for global leaders in Ad-tech, marketing, academia, financial services, retail, industrial, Healthcare, and Supply Chain industries. Advise both formal and informal leaders of start-ups and emerging technology companies. Inherent talent for capturing complex technical information and applying it to business needs meeting scope, budget, and the highest level of modern technology standards. Primary author or co-author of more than 25 scientific papers and 2 patents.

A proven leader with passion for data, an ability to analyze complex situations, I develop creative solutions in demanding environments. Have an extensive experience translating sophisticated mathematical data theories into practical use.

Experience

Walgreens

Director of Data Science | Walgreens Health | Innovation

November 2021 - Present (1 year 6 months)

Chicago, Illinois, United States

• Developing new innovative omni-channel patient-centric platform including Machine Learning / AI Healthcare solutions.
• Support Marketing technology by predictive modeling, including campaign optimization, segmentation, paid search, etc.
• Developing the programmatic Adaptive Learning Health System for Care Management (adaptive clinical workflow).
• Designing and implementing App-level technology enhancements supporting in-person/online patient interactions.
• Designing and developing Data Warehouse and healthcare programs marketplace for patients and caregiver data.
• Technologies: Databricks, Azure, GCP, IoT, remote patient monitoring devices and analytics, mobile Apps, bots.
• Strategic development of cloud Machine Learning and data management/ engineering architecture.
• Building and leading teams of Data & Machine Learning Scientists, MLOps, and Data Engineers.
• Technology rationalization initiative to evaluate and optimize the technology estate.
• Leading cross-dimensional programs.

Xen.AI

Head of Data Science

October 2020 - Present (2 years 7 months)

• Subject Matter Expert Lead advising on Data Science, ML, DL, AI in eCommerce, Ad-tech, digital Industrial transformation.
• Using IoT, Industrial IoT, Edge AI, Sensor Data Analytics, Azure, Databricks, Snowflake, Tableau, etc.
• Developed new methodology and algorithms for TV media planning to reach highest percentage of target audience.
• Using AI/ML, identified candidate knowledge, skills, abilities gaps and alignment of ‘high-match” candidates to a personalized learning roadmap for a job role.
• Algorithmic solutions, NLP, quantitative modeling, image processing, Reinforcement Learning, behavioral targeting modeling.

Northwestern University School of Professional Studies

Adjunct Faculty Member / SME
October 2020 - November 2022 (2 years 2 months)
Evanston, Illinois, United States

• Natural Language Processing in Artificial Intelligence

pExchange LLC
Director of Artificial Intelligence
April 2019 - October 2020 (1 year 7 months)
Arlington, Virginia, United States

• Directly worked with key client stakeholders, CTO, CEO to define business problems and determine solution requirements.
• Developed ML semantic match NLP algos: sem. similarities, OCR, NLTK, SpaCy, Gensim, GloVe, Word2Vec, BERT, Transformers.
• Worked with agile team of full stack engineers. Env: AWS, Cloud Computing, Google Analytics, Google Big Query.
• Worked on the development of the document database/knowledgebase for structured and unstructured information.
• Developed semantic search software solution including ontologies and taxonomy for the client`s specific corpora.
• Built large scale business intelligence applications such as analytical frameworks and budgeting software.
• Established, planned and administered the overall policies and goals of the data science function.
• Worked on development of the analytics solutions for the innovative platform, iDispla.com.

UC Berkeley School of Information
Subject Matter Expert / Assessor - remote, part time
2020 - 2020 (less than a year)
Berkeley, California, United States

• Course program: Machine Learning

W.W. Grainger, Inc.
Sr. Data Scientist - Marketing, Machine Learning, eCommerce/BI, Artificial Intelligence
March 2016 - April 2019 (3 years 2 months)
Lake Forest

• Ideated and developed predictive model for Customer journey to a purchase using Markov chains, Reinforcement Learning.
• Paved the way to profitable marketing across product categories by creating product recommendation model (clickstream).

• Ideated the methodology of the Cohesive Real-Time integration MRO omnichannel platform using combination of multiple identifiers across devices and touchpoints with data points collected alone the way for smart marketing and recommendations that drive sales and boosts ROI. Behavioral targeting modeling.
• Dramatically improved a product recommendation engine by developing a model for predicting risk of Revenue decline.
• Developed semantic match model using NLP, NN, Machine & Deep Learning, Word2/Vec, Doc2Vec, Semantic Similarities.
• People and projects management; interviewing people; working with business partners and intellectual property team.
• Developed association rules for up- and cross-selling based on viewed and purchased products (clickstream data) that significantly improved customer experience on www.grainger.com.
• Drove profitable investment strategies by developing predictive model for Customer acquisition and marketing.
• Modeled negotiation outcome (Cost Support); developed algorithm for Sentiment Analysis of surveys.
• Derived a new method based on SVD for working with sparse matrices; developed Web scraping code.
• Developed programmable Recommendation engine for the internal Sales Department.
• PYTHON, Spark, R, Excel VBA, Git/BitBucket, Shiny/Theano/Keras/ TensorFlow, Tableau.
• GPU, PyCharm, PyTorch, H2O, VSC, R Server; Data: Teradata, SQL, Hadoop.

Centro Media Inc

Data Scientist: Predictive Modeling | Business Intelligence | Machine Learning

2014 - 2016 (2 years)

Chicago

• Established the scope of predictive analytics development for Data Science (DS) team. Have been extensively involved into hiring process: profile selection, evaluation of the pre-interview case study tasks, interviews, decision making. Have grown DS group from 2 to 5 people.
• Leveraging data science to maximize financial performance & boost ROI for social advertising campaigns at Centro and Facebook portfolios. Periodical reports and discussion of results and prioritization with business leadership.

• Developed advertiser-publisher scoring system and automotive recommendation system for a programmable media platform by applying CF, SVD, iSVD, LFM, and Markov chains that boosted recommendation quality.
• Developed Ads Optimization, click prediction, and audience models for online advertising using Centro's and external data, optimization, clustering and classification algorithms .
• Performed Quantitative Research, Predictive Statistical Modeling, Model Validation, including Linear Mixed-Effects, Uni-/multivariate and Factor Analyses, Logistic Regression, Random Forest, Collaborative Filtering, Neural Networks, Real Time Analytics, Web Analytics.
• Analysis of user cookie-level data and Real-time bidding data (multi-TB scale) using Amazon S3, Hadoop cluster with Spark, Spark MLLib, Hive and Python.
• Found new modeling approaches for Real-time bidding via programmatic instantaneous auction, similar to financial markets, to know problems and realize it as a software tool that paved the way to profitable click predictions.
• Performed time series analysis, dynamic linear modeling, content-based recommendation, value-added models, and probabilistic record linkage involving.
• Programmed: Python, SPARK, R, C#, Excel VBA, Cypher, Matlab.
• BigData processing with Hadoop, HDFS, programming using Spark, MapReduce, Pig language.
• Agile development envs.: Windows, UNIX, Mac.
• Databases/processing: SQL, Pentaho, PostgreSQL, NoSQL, Neo4j, Mongo, Hive, Cassandra, Hadoop.

CME Group

1 year 10 months

Sr. Risk Management Analyst

March 2013 - May 2014 (1 year 3 months)

Greater Chicago Area

• Worked closely with DevOps on the development of the application for real time trading activity analysis.
• Performed detailed analysis on investment products, strategies and portfolios across asset classes.
• Developed decision logic supporting risk management and business initiatives, project management.
• Conducted modeling and statistical analysis for decision making support.
• Performed risk measurement using techniques: Greeks, VaR, HVaR, Expected Shortfall, Tail Analysis, Scenario Analyses, Stress testing.

Knowledge of stress scenarios for use in economic capital methodology and stress testing (CCAR).

• Conducted current margin rate analysis, new product margin determination, and volatility database maintenance.

• Assessed current market risks and price movements; maintained high standard of coverage while preserving capital
efficiency throughout the CME complex.

• Worked with Commodities, Fixed Income, OTC, IRS, CDS, Futures/Options, Swaps, FX, Equities, and Cross-Margin accounts.

• Used SPAN, Margin Analysis, Volatility DB, Calypso, and other software applications.

• Participated in the development cycle of the Real Time Market Risk dashboard.

• Conducted UAT testing, programmed in Excel VBA, MatLab, C#, R, and SQL.

Quant Risk Research Consultant

August 2012 - March 2013 (8 months)

Greater Chicago Area

• Conducted analytical research for the purpose of modeling and forecasting financial data.

• Performed time series analysis, statistical analysis and seasonality analysis of historical and current market data.

• Developed a prototype of margin model using market risk methodologies: SPAN, VaR, Historical VaR, Expected Shortfall (CVaR) and tail risk.

• Developed approach for modeling the Energy Risk, Liquidity risk of Commodities derivatives; GARCH, EWMA, ARMA
models.

• Worked with Options/Futures, Energy, Equity, FX, Metals, Agriculture commodities and their derivatives.

• Worked with IT group to improve data quality for regulatory and modeling purposes; Prototyping.

• Extensive programming in Matlab, Excel VBA, R, C#, and SQL.

Carnegie Institution for Science

Research Analyst Associate

April 2008 - August 2012 (4 years 5 months)

Washington D.C. Metro Area

• Project leadership and building a team of collaborators. Results are published in a number of scientific papers.

• Managed summer interns / young scientists. Leader of a few projects end-to-end; wrote and won competitive grants for scientific grants / proposals at Department of Energy, American Physical Society, National Science Foundation / The Center for Nanoscale Materials, etc.
• Analyzed scientific data by applying theoretical models in Quantum Mechanics and Computation, Signal Processing, and conducting experimental research in Condensed Matter Physics and Geophysics (Monte-Carlo, Data Analysis, Python).
• Developed Python code for data analysis (also using NumPy and SciPy, MatLab), regression, curve-fitting.
• Developed scheme and data-level database testing tool for communication between scientific equipment.
• Developed and tested discrete event simulation models; analyzed data by theoretical models.
• Researched, created, and executed innovative ideas that delivered high process and results.

Advanced Photon Source at Argonne National Laboratory, U.S. DOE Office of Science

Post Doctoral Associate

May 2005 - April 2008 (3 years)

Greater Chicago Area

• Worked in projects involving data analysis of scientific and statistical experiments, data analysis and curve-fitting, digital signal processing, applying Monet-Carlo, Markov chain, etc. Results are published in a number of scientific papers.
• Created control and user-interface software application based on Python and MatLab code.
• Clarified several important issues and discovered a way to extract critical information from experimental data related to Signal Processing.
• Modeled and simulated complex dynamical properties (Fortran and MatLab); UNIX/LINUX.
• Tested theoretical predictions of contemporary models related to the properties of magnetic materials.
• Managing/coordinated work of summer interns/young scientists. Leader of the end-to-end projects; wrote and won grants for scientific projects proposals at Department Of Energy, American Physical Society, National Science Foundation, etc.

Magnetic Phenomena Laboratory, Kirensky Institute of Physics, Russia.

Ph.D. student and Research Scientist
February 2000 - May 2005 (5 years 4 months)
Krasnoyarsk, Russia

- Experimentally and theoretically multidisciplinary research of the materials and their the properties.
- Performed the ab-initio single-electron energy band calculations using multi-electron approach.
- Performed the ab-initio simulation using The Vienna Ab-initio Simulation Package (VASP).
- Used quantum Monte-Carlo and Hubbard model ideas to compare electronic properties of the matter.
- Data Analysis, curve fitting (MATLAB).
- Supervision of undergraduate students.

The University Paderborn, Department of Physics

Invited Visiting Researcher
November 2004 - December 2004 (2 months)
Paderborn, Germany

Moessbauer Spectroscopy, Nuclear response; Data Processing

The Vereshagin Institute for High Pressure Physics Russian Academy of Sciences

Invited Visiting Researcher
May 2004 - July 2004 (3 months)
Troitsk, Russia

Moessbauer spectroscopy, Data Processing and Analysis

The Shubnikov Institute of Crystallography of the Russian Academy of Sciences (IC RAS)

Invited Visiting Researcher
March 2004 - April 2004 (2 months)
Moscow, Russia

Data Analysis, Crystal growth simulation, Moessbauer spectroscopy

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Education

Harvard University

Professional Global Emerging Leader Certificate · (2017 - 2017)

Argonne National Laboratory
Postdoctoral research, Physics, Data Science

Kirensky Institute of Physics
Ph.D., Physics and Mathematics

Siberian State University of Science and Technology
M.S., Physics and Engineering