Rofikul Al Masud

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EDUCATION

Novosibirsk National Research State University, Faculty of information Technologies **Novosibirsk, Russia**
SEPTEMBER, 2021- AUGUST,2025
BACHELOR OF COMPUTER SCIENCE AND COMPUTER ENGINEERING,
Cumulative GPA: 4.26/5.00

Thesis: Using machine learning tools to solve direct and inverse problems in determining the environment near the wellbore based on signals from the VIKPB device.

**is expected to be presented and published at the 2025 IEEE XVII APEIE Conference in November, 2025*

RESEARCH EXPERIENCE

Artificial Intelligence Laboratory, **Novosibirsk, Russia**
A.P. Ershov Institute of Informatics Systems Russian Academy of Sciences
Siberian Branch
JUNE 2025 – PRESENT
RESEARCH INTERN

Involved in the development and evaluation of ML models. Responsibilities include conducting literature reviews, supporting experimental design for ongoing research, preprocessing data, and maintaining research code. Additional tasks include contributing to technical documentation, preparing research posters, and assisting with conference presentations under the supervision of senior researchers.

Laboratory of Modern Computer Technologies, **Novosibirsk, Russia**
Novosibirsk State University
SEPTEMBER 2024 – MAY 2025
RESEARCH INTERN

Conducted research to improve and optimize machine learning models for analyzing high-frequency electromagnetic data from geophysical sensors. Experimented with neural networks and classical ML methods to enhance accuracy in solving problems, and developed computational modelling software to aid data interpretation.

PROFESSIONAL EXPERIENCE

Sberbank-Technology **Novosibirsk, Russia**
MAY 2024 – JULY 2024
DATA SCIENCE INTERN (R&D), MODEL RISK MANAGEMENT DEPARTMENT
Researched and validated machine learning models for risk prediction and management, streamlining processes through Python automation and ensuring data quality to improve model performance and reliability.

SKILLS

Programming Languages: Python, Java, C/C++, SQL, Go, JavaScript, Haskell
Computer Science & Software Engineering: Object-oriented programming (OOP), functional programming, data structures and algorithms, computational complexity, operating systems, computer architecture, design patterns, software testing and debugging, REST API development, microservices architecture
Machine Learning & Artificial Intelligence: Scikit-learn, TensorFlow, Keras, PyTorch; classical ML (regression, classification, clustering, decision trees, SVMs, ensemble methods); deep learning (CNNs, RNNs, transformers); natural language processing (NLTK, spaCy, Hugging Face Transformers, BERT, GPT); computer vision (OpenCV, ResNet, YOLO); cross-validation, model interpretability, feature engineering, dimensionality reduction, predictive modeling
Data Science & Analysis: NumPy, Pandas, R, SQL; statistical analysis (descriptive stats, hypothesis testing, inference), exploratory data analysis (EDA), time series, A/B testing, missing data imputation, reproducibility
Data Visualization: Matplotlib, Seaborn, Plotly, Tableau, Power BI; dashboard development, storytelling with data
Database & Backend Systems: MySQL, PostgreSQL, SQLite; relational database design, query optimization, schema modeling, metadata management
Cloud & DevOps: Docker, Flask, FastAPI, Nginx; AWS, Google Cloud Platform, Yandex Cloud; CI/CD, shell scripting, Linux administration
Tools & Version Control: Git, GitHub/GitLab, Jira,
Soft Skills: Analytical thinking, critical reasoning, problem-solving, adaptability, collaboration in cross-functional teams, communication, time management
Languages: English (C1), Bengali (Native), Russian (B2), German (A1)

RESEARCH COMPETENCIES:

Proficient in scientific documentation using LaTeX for thesis and publication preparation. Experienced in preparing technical reports, posters, and conference presentations to clearly communicate research findings. Skilled in data preprocessing, experiment design, and result visualization. Familiar with collaborative research workflows, code maintenance, and reproducible research practices. Able to conduct comprehensive literature reviews and summarize scientific articles to support research development.

PROJECTS

2024-2025: BIS - High-Frequency Electromagnetic Sounding Data Interpretation Program (team of 3)
Officially registered with the Federal Service for Intellectual Property, Russia (Certificate No. RU2024687640)

- Co-authored and registered a computer program (BIS) for quantitative processing and fast interpretation of high-frequency electromagnetic sounding signals from well drilling data.
- Developed functionalities for model parameter search, signal calculation for specific models, and target function calculation to match experimental data.
- Utilized C++ and Python for development, working with interval two-layer models and parameters including electrical resistivity, anisotropy coefficient, formation dip angle, and boundary depth.

**this computational modelling software was developed in the context of my bachelor's thesis and research work at the laboratory.*

2024: Bibliophilia (Web Application) (team of 3)

- Developed a Django and JavaScript web application for a free, open-source digital library, enabling users to share and download books.
- Implemented access restrictions, request-based book access, and automated conversion to multiple formats (TXT, EPUB, PDF, DOC).
- Integrated features for user recommendations and book rating systems, fostering a community-driven platform.

2024: Lisp-Machine (Java Framework) (team of 2)

- Developed a Java-based framework for parsing Lisp code and translating it into equivalent Java code.
- Allows users to input Lisp source files and outputs runnable Java classes.
- Demonstrates compiler design concepts, abstract syntax trees, and language interoperability.

2023-2024: MADR (Language Learning Application) (team of 4)

- Designed and developed a gamified language learning application in Go and JavaScript, inspired by Duolingo.
- Enabled users to customize language, learning processes, and design personalized learning methodologies.
- Focused on creating an engaging and interactive user experience through gamification principles.

ACHIEVEMENTS AND CONFERENCES

i. **Novosibirsk, April, 2025:** Participant, 63rd International Scientific Student Conference ISSC-2025 at Novosibirsk National Research State University – Section: Neural Network and Machine Learning (Participant Degree)
ii. **Novosibirsk, April, 2025:** Attendee, The 13th Conference on Artificial Intelligence and Natural Language (AINL) – Speaker: Prof. Natalia Valentinovna Lukashevich, Moscow State University.
iii. **Novosibirsk, December, 2024:** Participant, AI in Business - Cookie Fest 2024. (Second Place – Team of 6)
iv. **Novosibirsk, September, 2024:** Attendee, IV Novosibirsk Scientific Readings in Memory of Academician Tatyana Ivanovna Zaslavskaya "Time of Change: Individual and Group Choice in Response to New Challenges" – Speaker: Prof. Vadim Valerievich Radaev, National Research University Higher School of Economics
v. **Novosibirsk, February, 2024:** Participant, Classical Machine Learning Hackathon by Center for Financial Technologies. (Second Place – Team of 4)
vi. **Novosibirsk, December, 2023:** Participant, Archery Federation of Novosibirsk Region Competition – for outstanding performance in archery (Recurve) (Place – III).
vii. **Novosibirsk, April, 2022:** Participant, Students Conference at Novosibirsk National Research State University: "Mathematics on the Cutting Edge of Science" – Topic: Cryptography and Turing machines. (Place – II).