Pavel Makarov
mack7151@gmail.com
https://pavelmakarov.com

Work Experience

Moderna – **Norwood, MA**
Data Scientist September 2023 – Present

- Built predictive models using the Random Forest machine learning algorithm to provide recommendations on product quality.
- Developed RNA LC-MS data analysis software, enabling analysis of RNA modifications.
- Generated Excel based application for robots team, eliminating manual human labor by 70%.
- Created databases for chemical analysis and experiment storage and tracking.
- Generated dashboards and visualizations for RNA production processes.
- Provided SME knowledge for tool development and investigational support, including advanced data manipulation, visualization, modeling, and interpretation.
- Mentored junior staff in data analysis techniques and the use of analytical software.

Associate Data Scientist II April 2022 – September 2023

- Created experimental designs and implemented analytical studies for raw materials quality investigations.
- Built and managed comprehensive databases for tracking and managing experimental data, enhancing data accessibility and integrity.
- Developed operational and investigational models to support manufacturing and development activities, including multivariate and machine learning techniques.

Associate Data Scientist I August 2020 – April 2022

- Conducted statistical analysis to assess the impact of vaccination on COVID-19-related mortality rates.
- Implemented automation strategies for data processing, visualization, and reporting using Excel, significantly increasing efficiency and reducing manual errors.
- Presented data-driven findings to leadership and stakeholders, enhancing decision-making processes with quantitative evidence.

VIR Biotechnology – San Francisco, CA August 2018 – August 2020
Data Analyst

- Directed the integration of data science principles in protein chemistry analysis, optimizing laboratory workflows and experiment design.
- Applied data science techniques for protein analysis, including method development and validation, contributing to the advancement of molecular engineering projects.
- Utilized data modeling and simulation tools, such as Pymol, for predictive analysis and molecular modeling, demonstrating interdisciplinary skills in data science and bioinformatics.

Academic Research Experience

Bellevue University
Master of Data Science Projects

- Developed predictive models using the Random Forest machine learning algorithm to provide recommendations on earnings maximization
- Conducted statistical analysis to assess the impact of vaccination on COVID-19-related mortality rates during the pandemic
- Developed multiple regression models for price prediction, achieving a high coefficient of determination ($R^2 = 0.78$).
- Trained a VGG16 Convolutional Neural Network for breast cancer recognition model
- Developed a real-time sports analytics tool based on a trained Yolov5 model
- Designed visualizations and dashboards using Tableau that led to relevant insights for decision-making.

Skills

Python (pandas, scikit learn, Pytorch, Keras)
R Programming
AWS
Spark
SQL
Tableau
Exploratory Data Analysis
Statistical Analysis
GitHub
A/B testing
MS Office (Excel, Power Point, Word)

Education

Bellevue University - Bellevue, NE
Master of Data Science

University of Massachusetts, Boston - Boston, MA
Bachelor of Science in Biochemistry

Kazan National Research Technological University - Kazan, Russia
Master of Science in Chemical Engineering

IBM Data Science Specialization – Coursera
Introduction to Deep Learning & Neural Networks with Keras - Coursera