Oleksandr Volkov

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Education

- **University of California, Berkeley** *August 2025 - December 2026*
  Master of Arts in Statistics Berkeley, CA
- **Taras Shevchenko National University of Kyiv** *September 2021 - June 2025*
  Bachelor of Software Engineering Kyiv, Ukraine
  - GPA: 3.9 / 4.0 | Graduated with honors
  - Relevant Coursework: Data Structures & Algorithms, Data Analysis, Probability Theory, Statistics, General Algebra, Machine Learning, NLP, Object-Oriented Programming, Software Engineering, Operating Systems

Work Experience

- **Ukrainian Bureau of Credit Histories [🌐]** *March 2024 - July 2025*
  Data Scientist Kyiv, Ukraine
  - Developed, deployed and maintained machine learning models for credit scoring, marketing campaign response, credit limit determination and mailing.
  - Performed feature engineering using credit histories, court documents and open-source data. Implemented over 200 new features into the company's feature store.
  - Created Grafana dashboards to monitor PSI and Gini metrics of machine learning models.
  - Designed API endpoints to deploy machine learning models using Python and Flask technologies.
  - Applied NLP techniques using PyTorch to analyze and extract insights from court documents.
  - Developed an AI assistant using Vertex AI Agent Builder to optimize the customer support team's workflow, cutting call center expenses by 30%.
  - Built AI agent powered by Langchain and LLama for a service providing express analysis of business reputation of counterparties.

- **Cloudfresh, Google Cloud Premier Partner [🌐]** *April 2023 - March 2024*
  Data/ML Engineer Kyiv, Ukraine
  - Developed AI assistants for leading e-commerce platforms in Ukraine using Vertex AI and RAG technologies, driving an average 10% boost in conversion rates.
  - Created dashboards for forecasting and monitoring client budget expenditures leveraging Google BigQuery, BigQuery ML and Looker.
  - Designed and implemented data pipelines on GCP using Dataflow and Apache Beam with Python/Java to process over 50 TB of financial reporting data monthly for major retail chains in Ukraine.
  - Conducted A/B testing of deployed ML recommendation models for clients to evaluate impact on conversion and user engagement.
  - Consult company's clients on Cloud Computing, Cloud Databases, Generative AI and other GCP technologies.

- **PricewaterhouseCoopers (PwC) [🌐]** *September 2022 - April 2023*
  Data Analyst Kyiv, Ukraine
  - Applied machine learning methods for anomaly detection in financial audit reports of Eastern European companies.
  - Created analytical dashboards based on financial audit reports using Power BI.
  - Built tools for analyzing and processing audit reports extracted from SAP-like systems using Python and Spark, accelerating the team's data processing by 30%.
  - Worked closely with cross-functional teams to understand business needs and deliver data-driven solutions.

- **Ukrainian Bureau of Credit Histories [🌐]** *June 2022 - August 2022*
  Data Scientist intern Kyiv, Ukraine
  - Developed a new scoring model from scratch to predict bank clients' defaults over the next six months. The profit from loans issued using this model increased by 15%.

Academic Research Experience

- **Faculty of Cybernetics, Department of Intelligent Software Systems** *September 2023 - January 2024*
  Research Assistant Kyiv, Ukraine

  Under the supervision of Prof. Provotar, my research focused on developing Bayesian network models for multichannel queueing systems as part of a large-scale telecommunication systems project. I designed and implemented probabilistic models in R to capture uncertainty in system parameters such as arrival rates, service times, and the number of service channels. The goal of my work was to estimate blocking probabilities, waiting times under various load conditions and to support decision-making for optimal resource allocation in complex telecommunication systems.

- **Faculty of Cybernetics, Department of Computational Mathematics** *January 2023 - May 2023*
  Research Assistant Kyiv, Ukraine

  Conducted theoretical research under the supervision of Prof. Kashpur on a class of discrete probability distributions known as power series distributions with parameterization by mean. This work was part of the project *"Problems of Decision Making under Uncertainties"*, which focused on risk modeling and uncertainty quantification in applied systems. A part of my research was presented at the International Conference of Young Mathematicians, The Institute of Mathematics of the National Academy of Sciences of Ukraine.

- **V. Vynnychenko Central Ukrainian State University, Department of Education** *May 2022 - August 2022*
  Summer Research Student Kropyvnytskyi, Ukraine

  Investigated stochastic methods, including Monte Carlo simulations under the supervision of Prof. Voinalovych, focusing on the mathematical foundations of geometric probabilities and stochastic modeling. As part of this work, I developed and implemented a stochastic simulation model using MATLAB to analyze the behavior of random geometric configurations and estimate associated probability distributions. The results of this research were presented in a talk titled "Modeling Stochastic Experiments in the Study of Geometric Probabilities" at an international scientific conference.

Publications

C=Conference, J=Journal, P=Patent, S=In Submission, T=Thesis

[C.1] Volkov O. One power series distribution with parameterization by mean// International Conference of Young Mathematicians. The Institute of Mathematics of the National Academy of Sciences of Ukraine, June 1–3, 2023, Kyiv, Ukraine.

[C.1] Voinalovych N., Volkov O. Modeling Stochastic Experiments in the Study of Geometric Probabilities // Problems and innovations in Mathematics, Digital, Science and Professional education: XVI International Scientific and Practical Internet Conference, Kropyvnytskyi, November 20 – December 14, 2023. P. 38–39.

[C.1] Volkov O., Voinalovych N. Optimizing credit scoring for banking institutions using the XGBoost machine learning algorithm// Information modeling technologies, systems and applications (IMTSA-2024): Fifth international scientifically-practical conference, April 18-19, 2024, Cherkasy, Ukraine. – Cherkasy: The Bohdan Khmelnytsky national university of Cherkasy. P. 29–31.

[J.1] Volkov O., Voinalovych N. Building a Scoring Model for Financial Institutions Using the XGBoost Machine Learning Algorithm // International scientific periodic conference Series "SW-Us Conference proceedings": International scientific integration, July 20, USA, Seattle. https://doi.org/10.30888/2709-2267.2024-25-00-004

[J.1] Volkov O., Voinalovych N. Basic practical steps for data analysts in working with data // Bulletin of Kremenchuk Mykhailo Ostrohradskyi National University. 2024. 4 (147). P.69-78. https://doi.org/10.32782/1995-0519.2024.4.9

Awards

- Awarded the Academic Scholarship of the President of Ukraine, the highest national academic distinction, based on exceptional performance in the national university entrance exams (795/800). Granted to only 10 students nationwide. *2021*
- Awarded 2nd place in the National Mathematics Competition for university students, organized by Taras Shevchenko National University of Kyiv. *2022*
- Recipient of the Academic Scholarship of the President of Ukraine, the highest national academic distinction, for outstanding scientific achievements and academic excellence. *2024*

Skills

Programming Languages: Python, R, SQL, C++

Machine Learning Libraries: scikit-learn, XGBoost, PyTorch, TensorFlow

Cloud: Google Cloud Platform (Vertex AI, Retail, Dataflow, Bigquery, Cloud SQL, BigTable, Cloud Run, Computer Engine)

Data Visualization Tools: Matplotlib, Seaborn, Looker, Grafana, Power BI

Other Tools: Pandas, NumPy, MATLAB, LangChain, Jupyter, Ollama, Spark, Flask, Git, Docker, Apache Cassandra, MS SQL Server

Certifications

- Google Associate Cloud Engineer Certification *April 2024*
- Google Professional Data Engineer Certification *June 2024*
- Google Professional Cloud Database Engineer Certification *August 2024*
- Google Professional Machine Learning Engineer Certification *September 2024*
- Google Professional Cloud Architect Certification *May 2025*

Language Proficiency

- English (C1)
- Ukrainian (Native)
- Russian (Native)