Nuraly Astanakulov

Aspiring Software Engineer & Data Scientist
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Portfolio | **Linkedin** | **GitHub**

Education

Constructor University — Bremen, Germany
Computer Science (Minor in Data Science) B.Sc. — Sep 2023 - Aug 2026

Skills

Programming Languages:	C, C++, Python, JavaScript, HTML, CSS, Kotlin, |, English - C1, German - B2, Turkmen - Native, Turkish - B2, Russian - A2
Libraries/Frameworks:	Numpy, Pandas, Next.js, React, Django, Scikit-learn, Matplotlib
Tools / Platforms:	Git, GitHub, Docker, VS Code, Figma, Canva, Microsoft Office tools, Adobe Photoshop, Linux, Windows, PyCharm, IntelliJ IDEA
Databases:	PostgreSQL, Firebase

Projects / Open-Source

BMW 2024 Causal Machine Learning Hackathon | Link *Python, pandas, scikit-learn, XGBoost, LightGBM, DoWhy, imbalanced-learn, matplotlib, seaborn*

* **Data Quality Improvement:**
* Conducted comprehensive Exploratory Data Analysis (EDA) to visualize sensor data distributions, identify correlations, and perform anomaly detection.
* Reduced data anomalies by approximately **20%**.
* **Causal Inference for Process Optimization:**
* Applied causal inference using the DoWhy library to quantify the impact of production parameters (e.g., shift timing, sensor calibration) on defect rates.
* Identified critical process parameters influencing part defects, enabling targeted process adjustments.
* **Predictive Modeling:**
* Built robust ensemble predictive pipelines utilizing Random Forest, XGBoost, and LightGBM models.
* Improved predictive accuracy (ROC-AUC) by approximately **18%** over baseline models.
* **Class Imbalance Handling:**
* Addressed severe class imbalance in defect prediction using SMOTETomek techniques.
* Achieved a **25%** improvement in minority-class (defective parts) detection accuracy.

JobQuest Application Tracker | Link *React, TypeScript, Tailwind CSS, shadcn/ui*

Developed a full-stack web application to manage and visualize job applications:

- enabling users to track over 500+ applications with advanced filtering, status monitoring, and analytics
- implemented a dynamic dashboard using Recharts, improving user insights into application trends and statuses by 35%, based on user testing
- designed modular UI with shadcn/ui and ensured scalability via reusable components, custom hooks, and clean state management with React Context API.

Certifications

- Intensive Startup Preschool course on starting a business - **Startup Migrants**
- Certificate of Participation in the BMW 2024 Causal Machine Learning Hackathon - **BMW Group x Contructor University**

Honors & Awards

- Shortlisted for 2024 BMW Causal Machine Learning Hackathon