JAFAR BAKHSHALIYEV

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EDUCATION

Stiftung Universität Hildesheim, Germany *October 2022 - July 2024*
M.S., Data Analytics **Grade: 1.4 (sehr gut)**
Relevant Coursework: Machine Learning (1.3), Advanced Computer Vision (1.3), Advanced Machine Learning, Modern Optimization Techniques (1.7), Programming ML (1.0), Distributed Data Analytics, Deutsch A2 (1.0)

The University of Texas at Dallas, USA *August 2020 - May 2022*
M.S., Finance **GPA: 3.92 (High Distinction)**
Relevant Coursework: Programming for Data Science, FinTech & Blockchain, Business Analytics with R, Game Theory (PhD), Mathematical Methods for Finance

Bilkent University, Turkey *September 2016 - June 2020*
B.S., Industrial Engineering
Relevant Coursework: Introduction to Programming (Java), Introduction to Computing (MATLAB), Applied Data Analysis (R), Introduction to Stochastic Processes, Stochastic Models, Macroeconomic Theory I and II

EXPERIENCE

Stiftung Universität Hildesheim, Germany *October 2023 - Present*
Graduate Student Assistant (HiWi)

- Conducted 90-minute weekly tutorials for a group of approximately 20 students, explaining tutorial solutions, and providing academic support to enhance comprehension and performance.
- Assisted in the creation and administration of final exams, ensuring precise evaluation and fair grading of student assessments.

MaxDecisions Inc., USA *January 2022 - May 2022*
Risk Analyst - Data Science, Risk Management

- Prepared the dataset for machine learning models by overviewing Weight of Evidence (WoE), scaling non-categorical variables, and oversampling the data to address class imbalance.
- Implemented ML algorithms including SVM, XGBoost, and DL to predict Probability of Default for clients.
- Compared the performance of the models using metrics such as K-S scores, ROC curves, and confusion matrices on the test and validation datasets, and produced rank order tables to evaluate the models' effectiveness.
- Collaborated effectively with other team members and stakeholders, including data scientists, engineers, and business leaders, to deliver high-quality risk management solutions to clients. [Presentation], [GitHub]
- Tech stack: Python, Scikit-Learn, TensorFlow, Keras

Arcelik Inc., Turkey *January 2022 - May 2022*
Senior Year Project Engineer - Project Management, Strategic Planning

- Led a warehouse improvement project that involved relocating departments to optimize flow value and increase capacity by 2800 ft2, using MATLAB to assess and visualize the changes.
- Improved logistics efficiency by optimizing the path for forklift trucks, reducing wait time by 20% and enhancing productivity.
- Boosted revenue by 10% by designing and implementing wedges for coil steels, reducing damage and waste.

- Authored a comprehensive 40-page academic report detailing the project methodology, results, and recommendations for future improvements with a team of seven. [Presentation], [Report]

WORKSHOP PAPERS & PROJECTS

Workshop Paper: Enhancing Early TSF through Data Augmentation Techniques *March 2023 - Present*

Conducted research on enhancing early time series forecasting by applying data augmentation techniques, resulting in improved accuracy and robustness. Designed and applied FrAug, STAug, N-Beats, TimeGAN, and our designed augmentations methods such as WaveMask, WaveMixUp, and WaveMix.

Projects:

Building Machine Learning From Scratch, Universität Hildesheim *October 2022 - March 2023*

- Developed and formulated SLE algos (Gaussian elimination, QR), optimization algos (GD, Newton, SGD, CD), step-length algos (backtracking, bold-driver, RMSProp), forward/backward search with AIC/BIC, grid/randomized search with K-Fold,regularization (L1, L2, Elastic Net, Dropout), losses/fit (MSE, cross-entropy, case weights, MCR, Information gain)
- Developed and designed Linear/logistic regression, LDA/QDA, KNN (vanilla, LSH), decision trees (with gradient boosted), MLP, SVM, Naïve Bayes, K-Means, Gaussian Mixtures, NLP (TF-IDF, BOW, CBOW model, N-Gram language model). [GitHub]

Credit Default Prediction, American Express [GitHub] *May 2022 - September 2022*

- Conducted extensive data analysis on a dataset of 5M+ rows, leveraging time-series data and advanced feature engineering techniques to create over 800 features, resulting in a significant improvement in model performance.
- Achieved a 0.803 custom metric score with LGBM-DART and stacked 7+ models, including LogReg, SVM, NN, and Bagging
- Tech stack: Python, Scikit-Learn, Optuna, TensorFlow, Keras.

Smart Big Alpha Model, The University of Texas at Dallas *January 2022 - May 2022*

- Gathered the stock prices, financial statement & macroeconomic data, technical indicators, and social media sentiment data and generated panel data using these data. Determined 25 statistically significant factors & cultivated a portfolio by exploiting the insights from financial, technical, and sentimental indicators.
- Tested the big alpha model to analyze the performance & reliability in generating excess returns and achieved a 17.5% return from the portfolio.

SKILLS

Programming Languages (sorted): Python, R, Java, MATLAB, VBA
ML Frameworks: PyTorch, TensorFlow, Keras
Tools (incl. Databases): MySQL, Spark, Git, Docker, Tableau, LaTeX
Strong background in: ML and Deep Learning, Mathematics, Algorithms and Data Structures

AWARDS AND SCHOLARSHIPS

David L.Holmberg Fellowship, The University of Texas at Dallas *August 2021*
Dean's Excellence Scholarship, The University of Texas at Dallas *May 2021*
Full Tuition Waiver Scholarship, Bilkent University *September 2016*
Mathematical Olympiads (Baku) - 1st Rank *March 2014*

LANGUAGES

Azerbaijan - Native, **Turkish** - C2, **English** - C1, **German** - A2, **Russian** - A2