Ahmed Alqershi

Operations Research Analyst

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I turn mathematical methods into reliable, usable software. My work connects mathematical optimization, deep learning and software development, with a practical focus on efficiency and tools others can build on.

Professional Experience

GAMS Software GmbH | Sep 2022 - Present

Operations Research Analyst: Jan 2023 - Present

Erasmus Trainee: Sep 2022 - Dec 2022

- Core developer and primary implementer of GAMSPy's Stochastic Dual Dynamic Programming (SDDP) framework for multistage stochastic optimization, starting from a hydrothermal scheduling model. Documentation
- Core contributor to GAMSPy's machine learning framework, including neural-network formulations and bound propagation.
- Enhanced GAMSPy's piecewise-linear functions API and contributed model-library examples, testing, documentation and GAMS Connect data integration.
- Researched multi-objective optimization during the Erasmus traineeship and implemented an initial example based on the sandwich algorithm.

Economic Modeling and Software Development Consultant | Kaizen Consulting

Jul 2025 - Sep 2026 | Project-based freelance | Remote

- Led a six-person team developing a dynamic computable general equilibrium (CGE) modeling platform for policy and scenario analysis.
- Developed a Tourism Satellite Account toolkit for table compilation, consistency checks and traceable economic indicators.

Education

M.Sc. in Electrical and Computer Engineering | Abdullah Gul University

Sep 2023 - May 2025 | Kayseri, Turkey

GPA: 3.96/4.00 | 120 ECTS | Thesis-based degree

Thesis research: computational drug repositioning using word embeddings and Siamese neural networks.

YOK catalogue - search thesis no. 958165

B.Sc. in Industrial Engineering | Abdullah Gul University

Aug 2018 - Jun 2022 | Kayseri, Turkey

GPA: 3.84/4.00 | 245 ECTS | High Honour

Ranked first among the department's 2022 graduates.

Technical Skills

Optimization: linear programming (LP), mixed-integer linear programming (MILP), nonlinear programming (NLP), stochastic programming, SDDP, Benders decomposition.

Programming and modeling: Python, GAMS, GAMSPy, Julia, SQL, C#, Java.

Solvers: Gurobi, CPLEX, HiGHS, CONOPT.

Machine learning: TensorFlow/Keras, PyTorch, scikit-learn, neural networks.

Scientific software and simulation: Git, unit testing, API design, documentation, Simio, OptQuest.

Publications and Technical Writing

Alqershi, A. and Bakal, G. (2026). A Siamese Neural Network framework for computational drug repositioning using literature-derived biomedical knowledge. *Journal of Computational Science*, vol. 101, article 103029. First author. doi.org/10.1016/j.jocs.2026.103029

Alqershi, A., et al. (2025). Speed vs. Guarantees: A Practical MIP-NLP Trade-off for NN Robustness. *GAMS Technical Blog*. Lead author. Read the technical article

Selected University-Industry Projects

Stryker | Simulation and Optimization Capstone

Jun 2021 - May 2022

Integrated simulation and optimization for inventory and production planning in a year-long industry capstone.

HES Kablo | Production Scheduling

Nov 2020 - May 2021

Developed production-scheduling models and a fast heuristic for a flow-shop manufacturing line.

Femas Metal | Cutting-Stock Optimization

Feb 2020 - May 2020

Led a three-person project; the proposed cutting plan reduced trim loss by more than 80% in project evaluation.

Teaching and Leadership

Volunteer Teaching Assistant, Stochastic Models | Abdullah Gul University

Oct 2021 - Jan 2022

Supported practical teaching and recorded video tutorials on Markov chains and Poisson processes.

Vice President | AGU International Association

Oct 2020 - May 2022

Languages

Arabic: native | English: fluent | Turkish: good