

Doğukan Parlak

Junior Computer Engineer

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OBJECTIVE

Computer Engineering student with strong problem-solving skills, seeking to apply software development knowledge in real-world projects and internships.

PROFESSIONAL EXPERIENCE

Hyperever (İTÜ ARI Teknokent) - Computer Vision Intern

July – August 2025

- Built and annotated a dataset of 42,000+ images using Label Studio and COCO-based annotation pipelines to support large-scale single-class object detection training.
- Trained and optimized real-time object detection models using YOLOv11, OpenCV, and Ultralytics, improving target-class discrimination against visually similar objects.
- Developed data preprocessing and fine-tuning pipelines to enhance model robustness and deployment readiness for integration into a robotic dog platform.

Pasific Bilişim / YoSoft - Software Development Intern

August – October 2025

- Designed and developed a WhatsApp-based bulk messaging system to streamline operational communication between a technology company and its pharmacy client network.
- Built a Flask-based REST API with MySQL integration and session-based authentication, supporting multi-profile usage and dynamic message handling.
- Optimized database operations and API architecture to improve system reliability and scalability for high-volume messaging workflows.

PROJECTS

LLM & FOL Multi-Agent Rescue Simulator ([GitHub-LLM](#)) ([GitHub-FOL](#)) - Python, Ollama, First-Order Logic, Symbolic Reasoning

- Architected a three-agent pipeline (Planner, Assignment, Critic) in two separate implementations - LLM-based (Ollama) and FOL-based (symbolic) - sharing the same simulation shell and evaluation framework.
- Engineered a deterministic FOL assignment engine using four formal axioms (unique assignment, capability match, priority ordering, cost minimisation) that eliminated all constraint violations present in the LLM prototype (0/2 configs failed vs. 2/4 LLM runs failed).
- Benchmarked both approaches across four reproducible configurations and published full results with a custom metrics engine covering capability match, priority order, load balance, completion rate, and Actual/Optimal cost ratio; source code available on GitHub.

Predicting Personal Movie Ratings ([GitHub](#)) - Python, scikit-learn, XGBoost, pandas, NumPy, Matplotlib

- Developed a dual-task ML pipeline training 12 algorithms (Gradient Boosting, Random Forest, SVR, XGBoost, MLP, Stacking) on 1,312 personally rated films across regression and four classification schemes.
- Benchmarked three feature selection strategies (filter, RFE, embedded) with 5-fold cross-validation and GridSearchCV tuning, achieving 75.3% binary classification accuracy and a best regression MAE of 0.901.
- Analyzed feature importance via correlation, mutual information, and permutation methods to identify Horror genre and Runtime as the dominant predictors of personal rating behavior.

Digital Game Marketplace ([GitHub](#)) - FastAPI, React, JWT

- Engineered JWT-based authentication and role-based authorization for three user roles (user, developer, admin) with protected route guards across the full API surface.
- Architected a relational database schema with seven models and association tables to support game cataloging, cart checkout flow, and order management.
- Designed the full-stack application structure with seven modular API routers, fourteen React pages, and thirty-nine PlantUML user-story diagrams to drive structured development.

SKILLS

Programming Languages: Python, JavaScript, SQL

Machine Learning: Supervised & Ensemble Learning (scikit-learn, XGBoost), Data Preprocessing & Feature Engineering (pandas, NumPy), Model Evaluation & Cross-Validation

AI & Computer Vision: PyTorch, YOLOv11, Ultralytics, OpenCV, Ollama, Label Studio

Web Development: FastAPI, Flask, HTML5, CSS3, Bootstrap

Other Tools: Git, Selenium

EDUCATION

Aydın Adnan Menderes University - Computer Engineering (English), 4th Year