Osman Fatih Kilic

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Education

Bilkent University — **Ankara, Turkey**
M.S., Electrical Engineering, GPA: 3.57/4.0 — *2015–2017*

Bilkent University — **Ankara, Turkey**
B.S., Electrical Engineering, GPA: 3.85/4.0 — *2011–2015*

Experience

Just Appraised — **Remote/Hybrid**
ML Engineer Team Lead — *2026–Present*

- Leading the engineering efforts for AI-based automation of appraisal district workflows.
- Architecting scalable solutions for entity extraction and search ranking.
- **Key Achievement:** Spearheaded initiatives that reduced overall data extraction costs by 44% through strategic model optimization and automation.

Just Appraised — **Remote/Hybrid**
Senior ML Engineer II — *2025–2026*

- Led the adoption of Generative AI, specifically working on zero-shot/few-shot learning and prompt engineering with LLMs.
- Designed pipelines for structured data extraction from complex, unstructured real estate documents.
- Mentored junior engineers and established best practices for prompt evaluation and versioning.

Just Appraised — **Remote/Hybrid**
Senior ML Engineer — *2022–2025*

- Owned the full ML lifecycle including data preparation, model development, deployment, monitoring, and maintenance.
- Implemented robust CI/CD pipelines for ML models, ensuring high availability and performance in production.
- Optimized classification algorithms to handle increasing data volumes from diverse appraisal districts.

Just Appraised — **Remote/Hybrid**
ML Engineer — *2021–2022*

- Developed initial AI-based entity extraction and classification modules.
- Built search and ranking solutions to process raw text documents, automating previously manual business workflows.

Yapi Kredi Technology — **Istanbul, Turkey**
Junior ML Engineer — *2019–2021*

- **Chatbot Development:** Developed the NLP engine for the company's Turkish chatbot platform. Designed 9 dialogue act classes and trained a **Self-Attentive Bi-LSTM** classifier achieving a **0.90 weighted F1-score** on a custom annotated corpus of 5,020 sentences.
- **Intent Detection:** Built a large-scale intent detection system (148 intents) using **ELMo** (trained on Turkish corpora) and **BERTurk**, significantly boosting classification performance over baseline models.
- **Semantic Search:** Created a semantic search engine and alert system for banking documents to automate information retrieval.
- **Key Achievement:** Reduced the human load of chatbot systems by 80% with the deployed solutions.

Cognitive Scale — **Austin, TX**
Intern ML Engineer — *Summer 2018*

- Developed unsupervised NLP classification and supervised ML ensemble models for document classification (Morgan Stanley).
- **Key Achievement:** Developed PoCs that resulted in a contract from Morgan Stanley for the company.
- Implemented Factorization Machine-based interpretable recommendation engine solutions.

University of Texas at Austin **Austin, TX**
Research Assistant *2017–2018*
Adviser: Prof. Haris Vikalo.

- Developed **Team-Optimal Distributed Estimation** algorithms for dynamic parameters (random walk models) over networks with communication constraints.
- Designed diffusion strategies for time-stamped observations to achieve near-optimal performance in synchronous connected systems.

Bilkent University **Ankara, Turkey**
Research Assistant *2015–2017*
Adviser: Prof. Suleyman S. Kozat.

- Developed **Adaptive Hierarchical Space Partitioning** algorithms for online classification that scale linearly with feature dimension, suitable for high-dimensional Big Data applications.
- Created computationally efficient **Mixture of Experts** methods for signal processing, resulting in multiple publications and patents.

Turkish Aerospace Industries (TAI) **Ankara, Turkey**
Industry Co-op *2014–2015*
Developed a **Visual Guidance System for Satellite Rendezvous**. Delivered a 3D position and orientation estimation algorithm in real-time from a stereo camera by integrating SURF points tracking with Kalman filtering and optimal rigid body transformation methods.

Technical Skills

Languages: Python, SQL, Bash

ML & Deep Learning: PyTorch, TensorFlow, Scikit-Learn, XGBoost, Pandas, NumPy, SciPy

GenAI & NLP: OpenAI API, Hugging Face (Transformers, PEFT/LoRA), LangChain, LlamaIndex, FAISS, Pinecone

MLOps & Cloud: Docker, Apache Airflow, MLflow, Azure AI, AWS, Git, CI/CD

Deployment & Data: FastAPI, Flask, Elasticsearch, PostgreSQL

Awards & Honors

2017: Research Fellowship, University of Texas at Austin

2016: IEEE Best Student Paper Award, SIU Conference

2011–2015: High Honor Student, Bilkent University

2011–2015: Comprehensive Scholarship, Bilkent University

Selected Publications

- **O. F. Kilic**, E. B. Dundar, Y. Manav, T. Cekic, and O. Deniz, "Conversation Management in Task-Oriented Turkish Dialogue Agents with Dialogue Act Classification," *International Conference on Knowledge Discovery and Information Retrieval*, 2020.
- E. B. Dundar, **O. F. Kilic**, T. Cekic, Y. Manav, and O. Deniz, "Large Scale Intent Detection in Turkish Short Sentences with Contextual Word Embeddings," *International Conference on Knowledge Discovery and Information Retrieval*, 2020.
- T. Cekic, Y. Manav, E. B. Dundar, **O. F. Kilic**, O. Deniz and S. Arslan, "Domain-Independent, Task-Oriented Chatbot Creation and Conversation Policy Management Framework," *Workshop on Hybrid Intelligence for Natural Language Processing Tasks*, 2020.
- **O. F. Kilic**, A. Hasemi, and H. Vikalo, "Near-Optimal Distributed Estimation for a Network of Sensing Units Operating Under Communication Constraints," *Conference on Decision and Control*, 2018.
- **O. F. Kilic**, M. O. Sayin, and S. S. Kozat, "Team-Optimal Online Estimation of Dynamic Parameters over Distributed Networks," *Signal Processing*, 2018.
- I. Utlu, **O. F. Kilic**, and S. S. Kozat, "Resource-Aware Event Triggered Distributed Estimation Over Adaptive Networks," *Digital Signal Processing*, 2017.
- **O. F. Kilic**, M. O. Sayin, I. Delibalta, and S. S. Kozat, "An Efficient Mixture of Experts Method for Big Data Applications," *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2017.

- **O. F. Kilic**, M. O. Sayin, I. Delibalta, and S. S. Kozat, "Computationally Highly Efficient Mixture of Adaptive Filters," *Signal, Image and Video Processing*, 2016.
- **O. F. Kilic**, N. D. Vanli, H. Ozkan, I. Delibalta, and S. S. Kozat, "Adaptive Hierarchical Space Partitioning for Online Classification," *European Signal Processing Conference (EUSIPCO)*, 2016.
- H. Yildiz, M. Poyraz, **O. F. Kilic**, et al. "Visual Guidance System for Satellite Rendezvous Applications," *Recent Advances in Space Technologies (RAST)*, 2015.