Merve Kömür

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About

Computer Engineering student with 3+ years of experience in production systems leveraging Artificial Intelligence, Embedded Systems, and Natural Language Processing (NLP). Proficient in Python and widely used ML/NLP libraries such as TensorFlow, PyTorch, HuggingFace Transformers, and scikit-learn. Passionate about building end-to-end solutions to real-world customer problems with high-impact outcomes, using data-driven and observable approaches. Strong communicator, able to convey complex technical challenges to non-technical stakeholders. Seeking opportunities in NLP and Machine Learning, particularly part-time software engineering roles and internships.

Experience

Lead Researcher – TÜBİTAK 2209-A Project *Mar 2023 – Aug 2024*

Project: Postpartum Depression Detection via NLP on Turkish Social Media

Led a 4-member software engineering team to develop a classification pipeline for detecting early signs of postpartum depression in user-generated text.

Worked on a research project focused on detecting signs of postpartum depression in social media text data. In the scraping module, used Scrapy and BeautifulSoup to collect and preprocess raw textual data. In the modelling module, employed pandas, scikit-learn, PyTorch, and transformers (Hugging Face) for data preparation, sentiment analysis, and fine-tuned classification models. Applied various deep learning techniques to identify linguistic markers of depression, achieving robust performance metrics on a manually labeled dataset. Scraped and processed 10,000+ comments from platforms such as *kizlarsoruyor.com*, *anneysen.com*, and *bebeimgeliyor.com*. Built a modular architecture with 7 Python components and achieved 98% accuracy after 80+ training iterations using FFNN, LSTM, and BERT models.

Embedded Systems Intern – Nuvoton Lab Project *Jan 2025 – Feb 2025*

Developed a bi-directional DC motor control system using Nuvoton microcontroller and C with PWM-based speed adjustment. Designed an embedded software architecture for GPIO-based direction and real-time speed modulation (up to 60% duty cycle).

Education

B.S. in Computer Engineering - Doğuş University *Expected: 2027*

Transferred from COMU Mathematics Department

B.S. in Mathematics - Çanakkale Onsekiz Mart University *2023*

Courses: Calculus, Linear Algebra, Differential Equations, Discrete Mathematics

Skills

Programming: Python, Java, C++
ML & NLP: TensorFlow, Keras, scikit-learn, HuggingFace Transformers, SentenceTransformers, Zemberek NLP, NLTK, TF-IDF
Data Tools: Pandas, NumPy, Matplotlib, Seaborn
Automation: Scrapy, Requests, BeautifulSoup
Development: Git, GitHub, Colab, VS Code

Languages

English, French, Turkish

Certificates

Networking & Security:
Cisco – CCNA: Switching, Routing and Wireless Essentials
AI & Machine Learning:
Sequence Models – DeepLearning.AI
Natural Language Processing – DeepLearning.AI
Neural Networks and Deep Learning – DeepLearning.AI

References

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Assoc. Prof. Dr. Adem Polat, CEO @OpTomo, Assoc. Prof. @COMU, Visiting Prof. @Harvard — adempolat@comu.edu.tr