TOLGA IZDAS

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EDUCATION

Bachelor of Science in Computer Engineering Expected Graduation: Jun 2025
Yildiz Technical University Istanbul, Turkiye

- GPA: 3.64/4.0
- Relevant Coursework: Big Data Processing and Analytics, Artificial Intelligence, Image Processing

PROFESSIONAL EXPERIENCE

Software Engineer Intern Jul – Sep 2024
Turk Telekom Izmir, Turkiye

- Designed and implemented an SQLite database from scratch for company inventory management.
- Developed a user interface for inventory management using Django.
- Implemented database operations with authorization and data integrity measures.
- Improved the data retrieval and processing speeds, contributing to more efficient inventory management.

Software Engineer Intern Jul – Sep 2023
SESTEK Istanbul, Turkiye

- Developed voice input summarization and topic extraction tools using JavaScript and OpenAI's API.
- Designed and implemented a module for real-time HTTP data visualization in a web interface.
- Gained insights into agile practices through daily and weekly meetings.

RESEARCH EXPERIENCE

Research Scholar Jul 2024 – Mar 2025
COSMOS AI Research Group Istanbul, Turkiye

- Conducted benchmarks on large language models (LLMs) using few-shot learning.
- Created datasets for evaluating text generation models, ensuring high-quality data.
- Fine-tuned LLMs and embedding models, improved Recall@K scores by 10% in Retrieval-Augmented Generation (RAG) tasks.
- Developed and maintained scripts to automate model evaluation and analysis.

PROJECTS

COSMOS LLM Evaluation Tool | *PyTorch, Object-Oriented Programming (OOP)* Jul 2024

- Developed a tool to evaluate LLMs such as GPT, BERT, and LLaMA on a variety of tasks with support for few-shot learning.
- Implemented custom evaluation metrics for accuracy and perplexity.
- Established an OOP architecture to allow for easy integration of additional models and evaluation tasks in the future.

Occupation Prediction from Twitter Data | *TensorFlow, Machine Learning (ML)* Mar 2024

- Developed a project to predict occupations from social media data under the supervision of Prof. Banu Diri.
- Applied natural language processing (NLP) techniques to analyze and classify text data.
- Used ML models such as Logistic Regression, Support Vector Machines (SVMs), Random Forest, Convolutional Neural Networks (CNNs), and Recurrent Neural Networks (RNNs).
- Explored the impact of dataset size on model performance, achieving 89% accuracy in classification tasks.

PUBLICATIONS

- T. Izdas, H. Iskifoglu, and B. Diri (2024). "Occupation Prediction from Twitter Data." *Dokuz Eylul University Faculty of Engineering Journal of Science and Engineering (DEU FMD)*. (Accepted)

COURSEWORK

Big Data Processing and Analytics

- Gained hands-on experience with distributed systems, large-scale data processing, and recommender systems.
- Completed a project that evaluated the performance of Apache Hadoop in processing large datasets by applying various statistical functions.

Artificial Intelligence

- Studied fundamental AI concepts, including search algorithms, optimization methods, gradient descent, and stochastic processes.
- Implemented various projects using Genetic Algorithms and Q-Learning techniques to solve complex problems and enhance decision-making in AI systems.

Image Processing

- Explored core image processing techniques such as filtering, segmentation, and edge detection.
- Implemented algorithms for image recognition, and classification, and engaged in various related projects.

Information Retrieval and Web Search Engines

- Investigated web mining techniques to analyze and extract valuable insights from social media data.
- Implemented information retrieval algorithms to effectively extract relevant information and enhance search functionalities.

AWARDS AND HONORS

STAR Intern Researcher Scholarship Jul 2024
TUBITAK (Scientific and Technological Research Council of Turkiye)

- Awarded a scholarship as a research intern in the project titled "New Approaches for Text Representation and Text Generation with Neural Language Models" conducted by Prof. Mehmet Fatih Amasyali at Yildiz Technical University Computer Engineering Department.

ACCOMPLISHMENTS

National Science Olympiads in Computer Science May 2019
TUBITAK (Scientific and Technological Research Council of Turkiye)

- Ranked 55th out of 600 students in the National Science Olympiads in Computer Science.

CERTIFICATIONS

- Red Hat System Administration I & II - RH124 & RH134 Jan 2025
- Red Hat OpenShift I: Containers & Kubernetes - DO180 Jan 2025

SKILLS

Programming Languages: Python, Java, C, SQL, JavaScript, MATLAB
Libraries: TensorFlow, PyTorch, NumPy, Pandas, Keras, scikit-learn, Matplotlib, Apache Hadoop, Django, Spark
Tools: Git, Google Colab, Hugging Face, Kaggle, PyCharm, Jupyter Notebook

LANGUAGES

Turkish: Native
English: Fluent | TOEFL iBT: 98/120