Muhammet Ali Şimşek - New-Grad Software Engineer

• A passionate software engineer candidate. I thrive on exploring new technologies and implementing them in innovative ways. My dedication to continuous learning and sharing knowledge sets me apart. I enjoy coding, working with data, and leveraging cutting-edge technology to solve problems. As a team player with a supportive and empathetic nature, I excel in collaborative environments. I had hands-on experience with various technologies during the college phase, including C#(from freshman year, built a W. Forms CRUD App with MSSql), Python, JavaScript-TypeScript, React(interested in React-Native and Nextjs), ArcJet, FastAPI(used for AI inference-deployment), Streamlit, TensorFlow, Postman, .NET(didn't build that much app but interested in Semantic Kernel etc.), Node.js(Express.js), Docker, OpenAI API, Gemini API, Git, GitHub, LangChain, Google Colab, Jupyter Notebook, Anaconda, UIPath(interested in intelligent automations), BeautifulSoup, Git(Github, Actions), Jira, Trello, Linear, Slack ... I'm eager to contribute my skills and knowledge to your company and be part of a team that values innovation and the sharing of information.

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EDUCATION

Firat University

Software Engineering - 3.06 GPA   Sep 2020 - Feb 2025

- Related Courses: Algorithms and Programming, Data Structures, Database Management Systems, Object-Oriented Programming, Software Design and Architecture, Web Design and Programming, Data Mining, Artificial Intelligence, Software Requirements and Analysis, Software Quality Assurance and Testing
- During college, I served as the project lead for the TÜBİTAK 2209-B Industry-Oriented Goverment Supported Research Project titled 'Anomaly Detection in Infrared Images of Photovoltaic Modules'.
- Member of Turkish Informatics Association

Vilniaus Kolegija(Vilnius University of Applied Sciences)

Bachelors Degree in Software Engineering (ERASMUS+)   Feb 2023 - Jun 2023

Firat University

English Preparation Class - 73/100   Sep 2019 - Jun 2020

EXPERIENCE

Emeltek Biomedical Software Informatics

Software Engineer Intern   Sep 2024 - Sep 2024

- Developed a Next.js application that integrated Google Generative AI (Gemini) to analyze images and generate Turkish text descriptions, keywords, and related questions.
- Engineered robust, responsive user interfaces using React, TypeScript, and Tailwind CSS, enhancing the overall user experience with smooth scroll effects and custom error (404) page.
- Implemented key modules including image upload (with base64 conversion and real-time preview), dynamic keyword extraction, and interactive question generation.
- Utilized Next.js Server Actions with manual RegExp-based validation to ensure secure and efficient server-side operations.
- Strengthened expertise in TypeScript fundamentals—leveraging interfaces, generics, union types, and etc.—to produce reliable, maintainable code.
- Contributed to the deployment process by applying CI/CD best practices and gaining hands-on experience with Docker.
- Collaborated in a fast-paced R&D environment at EMELTEK, acquiring practical skills in prompt design and AI-driven content regeneration.
- Used AI tools to generate and refactor the code(Copilot Workspaces, Copilot in VScode)
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The Digital Transformation and Software Office of Firat University

Software Engineer Intern   Sep 2023 - Jan 2024

- Technologies used and acknowledged include Python, Convolutional Neural Networks (CNN), Deep Learning, MLflow, Data Version Control (DVC), Pandas, Langchain, Retrieval Augmented Generation(RAG), and Generative AI.
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SKILLS

- Tech: Python, Tensorflow, FastAPI, JavaScript, Typescript, Node.js(Express.js), React, C#, SQL, NoSQL(MongoDB, Supabase etc.), Effective Research with AI tools(Grok, ManusAI etc.), Prompt Engineering,
- Soft: Teamwork, Problem-Solving, Communication, Adaptability
- Language: English(B1+)

PROJECTS

LLM Based Image Analysis Application
- Developed a full-stack LLM-based image analysis application using Next.js, React, and TypeScript integrated with Google Generative AI (Gemini model) for automated image interpretation.
- Engineered a seamless image upload module that converts images to base64 for real-time preview and AI processing.
- Implemented dynamic keyword extraction and question generation features that convert AI-generated descriptions into actionable insights.
- Leveraged Next.js Server Actions with manual RegExp validation to enhance secure, server-side form processing.
- Designed a responsive, modern UI with Tailwind CSS, including smooth scroll effects, custom 404 pages, and toast notifications.
- Applied CI/CD best practices and Docker for efficient deployment and scalable application performance.
- https://github.com/MSimsek07/llm_image_analysis

Anomaly Detection in Infrared Images of Photovoltaic Modules
- Designed and implemented a CNN architecture using Python and TensorFlow/Keras.
- Preprocessed and augmented data to improve model accuracy and robustness.
- Conducted exploratory data analysis (EDA) to identify key features and patterns in the dataset.
- Prepared and fine-tuned a base CNN model leveraging ImageNet pre-trained weights.
- Optimized the model's hyperparameters to achieve higher accuracy and lower loss.
- Visualized model performance and results using Matplotlib and Seaborn.
- Documented the entire workflow in a Jupyter notebook for reproducibility and transparency.
- https://github.com/MSimsek07/pv_modules_cnn