Furkan Bilgin

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Education

Erciyes University Oct 2022 - June 2026
Bachelor of Computer Engineering

Technical Skills

Languages: Python, C++, C#, JavaScript, TypeScript, Go
Frameworks: Flask, FastAPI, Django, SQLAlchemy
Technologies: MySQL, MongoDB, Redis, ZeroMQ, Git, Docker, Kubernetes, Svelte, Unity, Cloudflare

Experience

Undergraduate Researcher and Software Engineer at Fermilab Dec 2023 - present

- Working on neutrino detector data quality monitoring systems in ANNIE, improving LAPPD Data monitoring
- Maintaining & developing the ToolAnalysis system running for ANNIE, using C++.

Undergraduate Researcher and Software Engineer at Erciyes Neutrino Research Group Oct 2022 - present

- Developing ENRGDAQ, a data acquisition software designed for our group's Water Cherenkov Detector, enabling real-time data storage, visualization, and analysis, using Python, ZeroMQ and C++
- Developing ENRG DocDB, a collaborative database for managing scientific documents
- Created ENRG Neutrino Atlas, an automated platform that maps and visualizes neutrino experiments worldwide, allowing researchers to filter, sort, and explore global projects
- Maintaining and developing various services – helping fellow researchers to work swiftly on their research

TÜBİTAK STAR & ERÜ BAP Fellowships Jan 2025 - present

- Undergraduate Researcher in TÜBİTAK project "Development of Neutron Interaction Model with Gadolinium Doped Water Cherenkov Detector"
- Undergraduate Researcher in ERÜ BAP project "Research and Development Studies and Nanotechnological Applications for Particle Detectors"
- Designed and implemented a modular data acquisition system, encompassing digitizer waveform capture, hit acquisition, and system management and control, resulting in quantifiable improvement and stability.

Contract Software Engineer at Kalite Bilgisayar Jan 2024 - present

- Developing a variety of software solutions for diverse clients across different industries
- Developed a solar panel management, analysis, and reporting system using Python and Flask
- Built a Binance trading automation platform with custom algorithms using Python and Flask
- Designed and developed the frontend for a production line management software using Svelte and Typescript

Software Engineer at ROBOKOD, Bursa Metropolitan Municipality Apr 2019 - Oct 2020

- Developed a backend system for emergency vehicle route optimization, expediting response times by generating efficient navigation paths and coordinating traffic light signals, using PHP and MySQL.
- Designed and implemented real-time traffic light control via embedded systems for optimal emergency vehicle routing, using C++.
- Placed 3rd in TEKNOFEST 2020, won patent price in Imagine Tomorrow 2020.

Projects

AGT Source Code

- Developed an algorithmic trader, utilizing Genetic Algorithms for training a model to predict market orders.
- Created an unique dataset, utilizing MACD, RSI, and other technical indicators to help train the model.
- **Technology:** Python