EFE GORKEM SIRIN

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Software & AI Engineer

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SKILLS

Programming Languages	C/C++, Python, TypeScript, JavaScript, Swift/SwiftUI, Bash, LaTeX, SQL, Java, R
Tools & Frameworks	git, Docker, Kubernetes, PyTorch, CI/CD, NestJS, Flask, Postman, React Native, Linux, Xcode, PostgreSQL, Mariadb, AWS, Google Cloud
Libraries	PyTorch, TensorFlow, OpenCV, Scikit-Learn, NumPy, SciPy

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EXPERIENCE

2023 – 2025
part time

Full stack developer — **Jewelss.co**

Co-founded and serve as CTO of a comprehensive digital asset trading platform. Architected and developed the entire iOS application from concept to pre-production, implementing sophisticated order matching algorithms replicating real-world stock trading functionality with both limit and market orders. Led full-stack technical development, designing backend infrastructure with a small team and single-handedly creating the complete mobile frontend experience. The platform is currently in pre-release phase with active user testing.

jewelss.co App

`Kubernetes / Helm / Docker / NestJS / TypeScript / SwiftUI / Postman / Xcode/Cloud / CICD / AWS / Google Cloud / Mongodb / Postgres / +`

2023 – 2025
part time

Teaching Assistant for C++ Courses (all 3 parts) — **University of Groningen**

Teaching Assistant for Frank Brokken's comprehensive C++ curriculum, spanning three progressive courses: C++ Fundamentals WBCS033-05, Programming in C++ WBCS034-05, and Advanced Programming in C++ WBCS035-05. My responsibilities included evaluating student assignments, providing detailed feedback, and mentoring students through the complete C++ learning journey. This covered fundamental programming principles, object-oriented design, advanced topics such as template metaprogramming, design patterns, memory management, and specialized applications like parser development using FlexC++ and BisonC++.

Course page

`C/C++ / Linux / FlexC++ / BisonC++ / Object oriented / Make / Bash / +`

2024 – 2025
part time

Teaching Assistant for Reinforcement Learning Practical — **University of Groningen**

Served as Teaching Assistant for the Reinforcement Learning Practical course, collaborating with the professor and fellow TAs to establish comprehensive course requirements and structure. Provided weekly guidance to student groups through regular meetings, delivered interactive lab sessions. Key responsibilities encompassed course design contributions, mentoring student groups, and comprehensive assessment of theoretical understanding and practical implementation skills.

`Reinforcement Learning / Python / Proximal Policy Optimization / +`

PROJECTS

2024 – 2025
Individual Project

Instagram Poster Bot | Self Hosting on RaspberryPi-5 Public

Personal automation project motivated by the ambitious goal of surpassing Instagram's post count records. Engineered a posting bot by reverse engineering Instagram's web protocols to bypass official API restrictions on automated posting. Implemented custom HTTP request handling and session management for reliable content publishing. Self-hosted on Raspberry Pi 5 with continuous operation. Posting 500 more digits of π to Instagram every day.

verynewusername/instagrambot

`Docker / CI/CD / Proxyman / Automation / Rev-Eng / Python / Bash / +`

2024 – 2025
Individual Project

Maintaining own RaspberryPi-5 server Private

After encountering the high costs of AWS and Google Cloud in my personal projects, I decided to experiment with self-hosting by setting up a Raspberry Pi 5 server at home. This hobby project allows me to manage my own infrastructure for side projects, including system administration, security updates, and service deployment. Maintaining the server has given me hands-on experience with Linux and network management, while achieving reliable uptime and reducing operational expenses compared to commercial cloud services.

`Linux / Docker / Bash / Self-Hosting / RaspberryPi / Infrastructure / +`

2024 – 2025
Individual Project

Monopoly Winner Calculator Public
Fed up with Monopoly arguments, I coded the whole game to create a tool that simulates the rest from any point. Load a JSON state, and it'll run simulations and show who's really winning.
verynewusername/monopoly
`Python / Object Oriented / Data Visualization / Matplotlib / Statistics / +`

2023 – 2024
Bsc. Project

Real Fake Classification Public — **University of Groningen**
Conducted comprehensive research on demographic biases in AI-generated image classification, focusing on gender disparities in distinguishing real from synthetic face images. Developed and evaluated CNN and ResNet-18 transfer learning models for classifying images generated by Stable Diffusion and GANs versus real images. Implemented statistical analysis using two-proportion Z-tests and created saliency maps via Grad-CAM to interpret model decisions. Achieved up to 99.7% accuracy while uncovering significant gender biases across different generative models and datasets.
verynewusername/RealFakeClassification
`Python / CNN / Transfer-Learning / Grad-CAM / Stable Diffusion / +`

2023 – 2024
3rd year of Bsc.

Deep Learning | Food Classification Public — **University of Groningen**
Collaborated in a team of two to develop a deep learning model for multi-class food image classification. Implemented a convolutional neural network using transfer learning with ResNet50 architecture on the Food101 dataset, achieving 56% accuracy through 5-fold cross-validation. The project involved data preprocessing, model architecture design, hyperparameter tuning, and performance evaluation.
verynewusername/food-101
`Deep Learning / Docker / Rest-Api / TL / CNN / PyTorch / torchvision / +`

2023 – 2024
3rd year of Bsc.

Reinforcement Learning | Lunar Lander OpenAiGym Public — **University of Groningen**
Collaborated in a team of two to develop and implement reinforcement learning algorithms for autonomous lunar landing control. Successfully trained agents using both Linear Q-Learning and Deep Q-Networks (DQN) approaches to master the LunarLander-v2 environment from OpenAI Gym. The project involved comprehensive performance analysis and comparison of tabular versus deep learning methods for continuous control tasks.
verynewusername/lunarlander
`Python / PyTorch / OpenAI Gym / NumPy / Linear Q-Learning / DQN / +`

2022 – 2023
2nd year of Bsc.

Robotics 1 & 2 | Autonomous Systems Private — **University of Groningen**
Developed two comprehensive autonomous systems: (1) An intelligent robotic system for human detection and tracking using SVM classifiers to analyze leg morphology patterns from LiDAR sensors, with real-time path-planning algorithms for optimal following distance and obstacle avoidance. (2) An autonomous vehicle with advanced decision-making capabilities, featuring computer vision algorithms for traffic sign recognition, intelligent lane-changing and overtaking systems using live camera analysis, and adaptive cruise control with collision avoidance based on environmental conditions.
`Python / PyTorch / OpenCV / ROS / TensorFlow / Keras / Gazebo / +`

EDUCATION

2024 – 2025

Pre-Masters | Computing Science — **University of Groningen**
Courses Taken: Computational Complexity, Advanced Programming, Web Engineering, Computer Architecture, Discrete Structures, Computer Graphics

2021 – 2024

Bachelor's Degree | Artificial Intelligence — **University of Groningen**
Elective Courses Taken: Parallel Computing C/C++ Fundamentals, Programming, Advanced Programming (Brokken's Course icce.rug.nl), Information Retrieval, Information Security, Robotics 1, Robotics 2, Reinforcement Learning Practical

2017 – 2021

High School Diploma & International Baccalaureate Diploma — **Koc Ozel Lisesi**
Double Diploma Track: Turkish High School Diploma & International Baccalaureate Diploma:
Higher Level: Mathematics AA, Physics, ITGS
Standard Level: Chemistry, English Literature, Turkish Literature

LANGUAGES

Turkish - Native Proficiency
English - Bilingual Proficiency
Dutch - Elementary proficiency

HOBBIES

Playing guitar & piano
Board games and strategy games
Fitness and exercise

PGP KEY FINGERPRINT

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C0A6 88A7 BC0E FC2E 3B0D