

SARP TOPRAK BIRBEN

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SUMMARY

Backend-focused software engineer with experience building high-traffic, scalable web-applications on Laravel. Delivering products that bridge financial logic with clean technical implementation. Comfortable owning systems end to end - design to production.

EDUCATION

Vrije Universiteit Amsterdam, Netherlands 2022-2025
BSc Computer Science

EXPERIENCE

Trein-vertraging — Software Engineer Intern Dec 2025 – June 2026
Amsterdam

- Designed and built a recommendation service in Laravel that analyzes user travel patterns against projected usage to suggest the right plan for each user - projected to save users EUR 2.1M/Y and now a core part of the platform's Pro tier.
- Redesigned the platform's communication system, consolidating scattered logic into a single reliable service with rate-limiting, deduplication, and scheduled sending - eliminating duplicate messages and reducing messaging-related support complaints
- Built an end-to-end customer-support integration with AI-driven routing that automatically categorizes queries, lifting automated solution from 31% to 65% and cutting manual support work
- Contributed to the integration of rail data from major operators across nine European countries, building normalization and entity-matching logic that unified real-time and timetable feeds through UIC-based and geospatial station mapping, enabling broader network coverage and more consistent traveler information.

PROJECTS

football — Online Multiplayer Football Manager *Python / FastAPI / React*

- Built a real-time multiplayer game backend where users join league sessions, manage squads, and trade players on a live transfer market against other players and AI bots — FastAPI + async SQLAlchemy 2.0 (PostgreSQL), with Celery / Redis workers driving match simulation, season progression, and bots.
- Engineered a deterministic match-simulation engine and a transactional-outbox event pipeline for reliable updates; validated with unit, property, and load tests (k6, Locust).
- Set up CI/CD pipelines with Github Actions - automated testing on every change and Dockerized deployments to dev and production environments

morethantasks — Full-Stack Productivity App *Swift*

- Designed and built a full-stack app with online/offline data synchronization.
- Built a dual-database system (PostgreSQL + SQLite) for reliability and scalable local-first storage.

SKILLS

Languages: PHP, Python, Java, C++

Backend: Laravel, FastAPI, REST APIs, third-party APIs, Celery, Redis

Frontend: React, Inertia.js, Next.js, Vite.js

Databases: MySQL, PostgreSQL, SQLite, SQLAlchemy

Tools / DevOps: Docker, Git, Github Actions, CI/CD, Alembic

Concepts: System Design, Distributed Systems, Scalability, Data Structures & Algorithms Scalability

VOLUNTEERING & LEADERSHIP

FIRST Robotics — Team Leader 2018 – 2022

- Led a medium sized multi-disciplinary team across 4 competition seasons, coordinating design and build under pressure; applied systems-engineering principles and CAD to competition challenges.

Coding Summit — Java Instructor 2021 & 2022

- Mentored beginner students in Java and object-oriented programming, communicating technical concepts to non-technical learners.