

Balázs Csutar

AI Engineer · Data Science & Machine Learning

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PROFILE

AI engineer and cum laude Data Science & AI graduate (BSc, Breda University of Applied Sciences) with a year of production experience at two Dutch construction-expertise firms. I build multi-agent and LLM systems that stay grounded in deterministic logic, along with the pipelines and dashboards that put their output in front of users. I work in English inside Dutch business environments, with Dutch-speaking colleagues and end users.

CORE SKILLS

AI & Data Science: LLMs, RAG, multi-agent systems (LangChain, LangGraph), NLP (spaCy), computer vision & image segmentation, machine learning, statistical analysis, prompt engineering

Development: Python, TypeScript, JavaScript, React, React Native, Next.js, Node.js, Flask, Tailwind CSS, REST APIs

Data & Infrastructure: PostgreSQL, Supabase, Firebase, Power BI, Docker, Git, CI/CD, Capacitor

EXPERIENCE

AI Engineer — Zie Expertise, Eindhoven Feb 2026 – present · Full-time

- Designed and built **ZieCo**, a multi-agent system that turns messy field notes on construction damage claims into structured Dutch expert reports, so the firm can produce them faster. Also my graduation project (grade 8.2/10).
- Five agents in a fixed pipeline: *Reader* (structured evidence with confidence scores), *Advocate* and *Skeptic* (argue the claim independently, without seeing each other's output), *Gap Spotter* (finds missing information), *Judge* (writes the verdict).
- Chose deterministic orchestration (fixed steps, fixed order) over LLM-driven routing after seeing models make unreliable decisions about what to run next.
- Built the React dashboard showing RAG status (green/amber/red), evidence, both arguments and flagged gaps.
- Prototyping a computer-vision layer that segments damage photos to identify and categorise cracks (exploratory, not yet in the MVP).

Python, LangChain, LangGraph, React, Vite, TypeScript, Anthropic API

Full-stack Developer — Quattro Expertise, Oosterhout (Verenigde Expertise) Jul 2025 – present · Part-time

- Build web applications and dashboards in React, Next.js and TypeScript, shipped in a production monorepo with several live apps.
- Work with company data: ingesting, cleaning and structuring data and documentation so employees can query figures and statistics.
- Built a staff helpdesk platform including **Vosco**, an internal chatbot that answers from the knowledge base and says so when it doesn't know.

React, Next.js, TypeScript, Python, data cleaning, LangChain

Developer & Designer — Bubbleland (3D-printed products for fiber artists) Dec 2024 – present · Side project

- Run the e-commerce website, built internal tooling for order logistics, and set up a Power BI dashboard tracking sales and user behaviour to support business decisions.

Driver Captain — Thuisbezorgd.nl, Tilburg Nov 2022 – Aug 2025 · Part-time

- Trained and onboarded new drivers; point of contact between riders and local management during shifts.

PROJECTS

woordje — Multilingual language-learning platform 2025 – present · Solo

- Designed end to end: React Native app, Chrome extension that pulls vocabulary from Duolingo, and a stateless Flask API for language analysis; auth, sync and storage on Firebase.
- Deterministic tools do the facts, the LLM only holds the conversation: spaCy for lemmas and grammar, wordfreq for word difficulty, a dictionary for meaning. Sentence corrections are grounded in the spaCy parse.
- Multi-language by design: one registry wires each language's NLP layer and degrades gracefully when a model is not installed.

React Native, React, Flask, Python, spaCy, wordfreq, Firebase, TypeScript, LLM APIs

EDUCATION

BSc Data Science & Artificial Intelligence (cum laude) — Breda University of Applied Sciences 2023 – 2026

- Graduation project: ZieCo at Zie Expertise (final grade 8.2/10).

Mechanical Engineering (1 year) — University of Miskolc 2020 – 2021

LANGUAGES

Hungarian — native · English — full professional proficiency · Dutch — A2 comprehension, A1 speaking, improving

OTHER

Open-source contributor: Hungarian translations for Gadgetbridge (Android wearable companion). Self-hosted home server (Docker, Nginx) running multiple services. 18 certifications on DataCamp and other platforms.