

JAKUB KUBÍK

Senior Software Engineer · Invasys

Senior software engineer with 7+ years of building backend systems and an MSc in cybersecurity. Python, PostgreSQL, high-availability data pipelines and cybersecurity software. Co-author of a paper in Springer LNCS 16231 (CBT workshop at ESORICS 2025).

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LOCATION	Brno, Czech Republic

01 EXPERIENCE

2024 – present
2 years, 10 months

• ONGOING

Invasys Brno, Czech Republic

Software Engineer 01/2024 → Senior Software Engineer 03/2026

- Design and build backend services for advanced cybersecurity software used in real-world operations.
- Work on the data layer and database migrations, containerised services and deployment through CI/CD.

Python · PostgreSQL · SQLite · SQLAlchemy · Alembic · Docker · GitLab CI/CD

2019 – 2023
4 years, 9 months

Kiwi.com Brno, Czech Republic

Junior Software Engineer 04/2019 → Software Engineer 01/2023

alongside university until mid-2023

- Built systems that retrieved data from many external sources, using web scraping to keep the data coming in reliably.
- Built large-scale monitoring pipelines for a high-traffic environment.
- Identified and resolved data-quality issues.
- Designed monitoring that regulated the data flow from multiple sources, switching feeds on and off automatically based on defined criteria.

Python · PostgreSQL · Redis · Elasticsearch · Kibana · Datadog · Docker · Kubernetes
· GitLab CI/CD · GCP

02 EDUCATION

2020 – 2023

Brno University of Technology

MSc (Ing.) in Cybersecurity

Information Technology and Artificial Intelligence programme, Cybersecurity specialisation. Master's thesis: a simulation framework comparing how well blockchain consensus protocols resist selfish mining; the Springer LNCS 16231 paper builds on it.

Python · simulations · blockchain

[Master's thesis](#) [Paper \(Springer LNCS\)](#) [Full text \(arXiv\)](#) [smasf framework](#)

2016 – 2020

Brno University of Technology

BSc (Bc.) in Information Technology

Bachelor's thesis: a recurrent neural network for English text prediction, run in the browser as a Chrome extension (TensorFlow, tensorflow.js).

TensorFlow · tensorflow.js · JavaScript · C · C++

[Bachelor's thesis](#) [Archived Chrome Web Store listing \(2025\)](#)

Selfish Mining in Multi-attacker Scenarios: An Empirical Evaluation of Nakamoto, Fruitchain, and Strongchain
M. Perešíni, T. Hladký, J. Kubík, I. Homoliak. Springer LNCS 16231 (CBT workshop at ESORICS 2025), pp. 328–343, 2026. DOI · full text on arXiv

- ozjuliana.sk** 2026
A website for a small non-profit that collects goods for people in need all year round – fast on mobile, with a simple news admin and no WordPress. ozjuliana.sk
- DentSpark.com** 2026 **IN PROGRESS**
A redesign and fixes for a Wix shop selling painless dent repair tools. The product and search fixes are done; the FAQ draft and the new design are in progress.
- University projects (Brno University of Technology)** 2022–2023
Projects from my cybersecurity master’s: simulating attacks on blockchains, machine-learning anomaly detection in industrial network traffic and a Dockerised monitor for peer-to-peer network nodes.
- Homelab** 2025 – present
My own server where I practise running services the way it’s done at work: isolated services, monitoring, tested backups and documentation.

BACKEND	Python · asyncio · FastAPI · REST APIs · SQLAlchemy · Alembic · pytest
DATA AND DATABASES	PostgreSQL · SQLite · SQL · Redis · Elasticsearch · data pipelines · data quality · web scraping
SECURITY	secure software development · network security · TLS / PKI · WAF · CSP · 2FA (TOTP) · anomaly detection (ML) · web security reviews
CLOUD AND DEVOPS	Docker · Docker Compose · GitLab CI/CD · Gitea Actions · GCP · Linux · Bash · Proxmox VE · Traefik · Cloudflare
MONITORING AND OBSERVABILITY	Datadog · Grafana · Loki · Kibana · Sentry · PagerDuty
AI-ASSISTED DEVELOPMENT	Claude Code · specs and architecture · review of every change · tests and CI gates before deploy
WEBSITES	Astro · HTML · CSS · JavaScript · PHP · accessibility (WCAG) · web performance · SEO

SLOVAK	native
ENGLISH	fluent, working language since 2019
GERMAN	basic