Kornél Péch

Data Science student

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PROFILE

Data Science in Business BSc student at Corvinus University of Budapest. I am interested in Python, machine learning and large language models, and work with them in personal projects and in my thesis: I built a data collection system with a locally hosted language model, and my thesis extracts structured knowledge from text. I gained corporate experience as a controlling intern.

EXPERIENCE

Controlling Intern, Dometic — August 2025

- Automating Excel-based workflows

Web Development and AI Solutions, self-employed

- Lead finder tool using Google Places data with prospect scoring
- Live Google review request automation for a Budapest flower shop (WooCommerce webhook, dedicated sending domain with SPF/DKIM/DMARC)
- AI chatbots and automations, plus websites and webshops (WordPress, WooCommerce) for small and medium-sized businesses

PROJECTS

Credit Risk Early Warning System: course project, deep learning part
Python, PyTorch, pandas, scikit-learn
Late-fusion model of an LSTM and an MLP encoder over daily market data (CDS, yields, FX volatility) and monthly macro data, predicting S&P sovereign rating changes 30-90 days ahead. Chronological validation and class weighting for rare events.

The Sentiment Gap: text analytics team project
Python, NLTK, scikit-learn, SciPy
On 100,000 Amazon reviews, star rating and text sentiment disagree in 44.5% of cases (chi-square, Cramér's V = 0.32). VADER, TF-IDF with logistic regression (macro F1 0.655), LDA topic modelling.

apro-tracker: data collection and price tracking for used hardware listings
Python, Scrapling, Ollama, SQLAlchemy, Docker
Collects listings from three Hungarian second-hand marketplaces, keeps full price history, and turns messy titles into structured products with a rule parser and a locally hosted language model.

Fare Dodger: simulation and game on Budapest public transport
Python, BKK GTFS, self-written RAPTOR router
Bot-vs-bot simulations (200 games per matchup, Wilson intervals) to balance the game rules on the real BKK timetable.

EDUCATION

Corvinus University of Budapest
Data Science in Business BSc
2023 - 2027 (expected)

- Thesis (in progress): using large language models to extract and structure knowledge from text

Budapest Piarist High School
Secondary school leaving exam (érettségi)
2023

SKILLS

Data and ML
Python (pandas, scikit-learn, PyTorch, NLTK), machine learning, deep learning, NLP, network analysis (networkx), operational research and LP modelling (PuLP), LLMs (prompting, structured information extraction, Ollama), web scraping, Excel automation

Development and infrastructure
Git, GitHub, Docker, Linux, Cloudflare

Web
WordPress, HTML/CSS

LANGUAGES

Hungarian	native
English	fluent

SPORT

European Champion sabre fencer