



Alexander Benko

Senior Python Dev. / Data Engineer

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↪ [GitHub](#), [LinkedIn](#),
[GoodReads](#)

Skills

Python (Programming
Language)

C++ (Programming
Language)

Perl / PHP (Programming
Languages)

Django / Django REST
(Framework)

Flask / FastAPI (Framework)

PostgreSQL, MySQL,
MariaDB, SQLite

MongoDB, Elastic

Redis, Memcached

Docker (Software)

RabbitMQ, Kafka

Nginx

Bootstrap (Front-End
Framework)
(HTML/CSS/JavaScript/JQuery)

Natural Language
Processing / Understanding
(NLP/NLU)

Data Scraping / Processing /
Manipulation (ETL)

Machine Learning /
Collaborative filtering / AI

Profile

10+ Years of Python/Django/PostgreSQL Experience: Demonstrated a decade-long commitment to mastering and leveraging these technologies in complex software development projects, consistently delivering high-quality, scalable solutions across various domain

Key Contributor in Scaling Start-ups: Played a pivotal role in 5 start-up development teams, significantly contributing to the architecture of robust systems and developing personal projects from inception to production.

Expertise in Large-Scale Data Scraping and Processing: Engineered advanced ETL solutions managing over a billion records in multiple domains, transforming extensive data sets into searchable, meaningful insights.

Algorithmic Trading and Cryptocurrency Expertise: Independently built a data-driven algorithmic trading platform and significantly contributed to integrating cryptocurrency technologies in various business models, showcasing practical financial technology skills.

NLP/NLU Implementation and AI Integration: Ventured into Natural Language Processing and Understanding, adding a layer of AI-driven intelligence to software solutions, reflecting a commitment to continuous learning and adaptation to emerging technologies.

As a Senior Python Developer, my career has been defined by a deep engagement with a broad spectrum of software engineering projects, from the intricacies of algorithmic trading platforms to the robustness required for enterprise-grade CRM and CMS systems. My proficiency with Django and REST APIs has been the cornerstone of my approach, enabling me to construct and scale dynamic SaaS solutions. My work encompasses the development of a stock options trading system, the integration of (Cardano) cryptocurrency into business models, and the creation of comprehensive management systems for fintech, e-commerce and sports organizations. Recently, I've expanded my expertise into Natural Language Processing (NLP) and Natural Language Understanding (NLU), marking my foray into AI. This new endeavor focuses on developing intelligent systems that interpret and analyze human language, enhancing my existing software solutions.

Cryptocurrency / Blockchain
/ Tokenization

Algorithmic Trading /
Interactive Brokers (API)

Languages


Slovak



English



German



Employment History

Software Developer, Infinit s.r.o., Bratislava

January 2023 — Present

First project involves Natural Language Processing / Natural Language Understanding. My role involved assisting in the design and implementation of a Python SaaS platform.

- Tech stack: Python/FastAPI, Websockets, NLP/NLU (AI)

Second project i was assisting in the design and implementation of a Python testing SaaS] including the development of the pytest plugin pytest-testmon. For more details, visit <https://www.testmon.net/>.

- Tech stack: Python/Flask, Docker

Software Developer, Tradingsystem (personal project), Bratislava

January 2021 — Present

Tradingsystem is a robust stock and options algorithmic trading platform featuring state-machine-like trading algorithms through the InteractiveBrokers API. It involves extensive 24/7 data scraping from sources like Benzinga, InvestorsHub, NASDAQ, OTC Markets, Trading Economics, Yahoo Finance, and Interactive Brokers, utilizing TOR and/or VPN(s). The system ensures all data is meticulously cleaned and organized, enabling the provision of coherent, up-to-date information for informed price-action trading decisions. Key submodules include EconomicEvents, MarketSnapshots, SocialScanner, StockFundamentals, StockOptions, and StockSignals, alongside tracking of macroeconomic and company-specific unusual events. The system leverages the IB Gateway API, adapted into a synchronized database-driven request/response service, contrary to its default asynchronous nature. As a solo developer with over a decade of trading experience, the system is in continuous development, requiring extensive testing.

- Screenshots / Video: <https://github.com/axdel/linkedin/tree/master/>
- Tech stack: Debian, Nginx, Gunicorn, Python/Django, PostgreSQL, Redis, IB Gateway, Bootstrap

Software Developer, 01 People s.r.o., Bratislava

August 2020 — December 2022

I was tasked with integrating Cardano cryptocurrency into various crypto centric projects. My responsibilities included managing the cardano-node (with CLI/API/wallet), overseeing cardano-db-sync (a tool for synchronizing the blockchain with a PostgreSQL database), and implementing features such as Cardano deposits, withdrawals, Native Token minting, NFTs, Royalties, and a UTxO dust sweeper, along with other Cardano Improvement Proposals (CIPs). These implementations were utilized across NFT marketplaces (- <https://rull.world/>), auction platforms, and for the creation of custom tokens for diverse marketing initiatives, including real estate tokenization (-

<https://rull.estate/>), among others. While part of a broader development team, I independently spearheaded the entire Cardano segment.

- Tech stack: Docker, Nginx, uwsgi, Python/Django/RESTFramework, PostgreSQL, Redis, Cardano (everything that exist, from seeds/keys, wallets, low-level transactions, UTxO model, to NFT tokens with royalties)

Software Developer, InGym s.r.o. (personal project), Bratislava

January 2016 — Present

InGym is an event and course management system designed for sports events and clubs. It encompasses a suite of features including user and coach management, payment processing, wage distribution, course and season scheduling, attendance tracking, and a credit system. The system automates bank payment matching and supports newsletters, internal messaging, and notifications. It has already attracted several paying customers. This project, developed as a one-man initiative, is not yet publicly released.

- Tech stack: Debian, Nginx, Gunicorn, Python/Django, PostgreSQL, Redis, Bootstrap, jQuery (yes old school)

Software Developer, BENALEX PLUS s.r.o., Bratislava

May 2019 — August 2020

My responsibility was to architect, develop, deploy, and manage the company's integrated e-commerce and ERP intranet system. This system unified the e-shop, MRP accounting software, warehouse, and retail data, facilitating a comprehensive digital overview and streamlined management of the company's operations. Key projects included automating the invoice matching process with TatraBanka, creating an e-shop with TatraPay payment integration, and developing tools for monitoring warehouse inventory and generating sales and revenue reports. A significant challenge was reverse engineering the internal Firebird database of the accounting software to ensure seamless data manipulation without compromising system integrity. This led to the implementation of a complete structural integrity check within the codebase to validate compatibility with new software releases. This project was a solo endeavor.

- Screenshots: <https://github.com/axdel/linkedin/tree/master/benalexplus>
- Part of MRP python wrapper:
<https://github.com/axdel/linkedin/blob/master/benalexplus/mrp.py>
- Tech stack: Debian, Windows Server, Nginx, Gunicorn, Python/Django, PostgreSQL, Redis, Bootstrap, MRP (accounting software) with its Firebird (SQL DB)

Software Developer, Infinit s.r.o., Bratislava

May 2016 — May 2019

As a Python backend developer contracted with Infinit s.r.o., I served a pivotal role for the Finnish telecommunications company DNA (<https://www.dna.fi/>).

Over the course of three years and one month, my responsibilities encompassed the development of new features and the resolution of production issues across a suite of web applications, including e-commerce platforms, order management systems, customer self-service portals, and CRM and administrative applications. I collaborated within a dynamic team environment, comprising 20 developers and 11 QA specialists, to drive continuous improvement and innovation.

- Tech stack: Docker, Nginx, Python/Django, MariaDB, Redis, VueJS, jQuery

Software Developer, Pexeso / Pex, Bratislava

April 2015 — April 2016

At Pexeso (now known as <https://pex.com/>), I was instrumental in designing and implementing the data scraping, processing, and management components of their Digital Rights Management platform. My work involved handling big data, processing over 1TB daily and managing billions of rows in PostgreSQL, all optimized for real-time access and processing. I was part of a dedicated team of 10 developers, working collaboratively to ensure the system's efficiency and reliability.

- Screenshots: <https://github.com/axdel/linkedin/tree/master/pexeso>
- Tech stack: Debian, Nginx, Unicorn, Python/Django/RESTframework, PostgreSQL, Redis, RabbitMQ, HBase, Hadoop, Phoenix, Kafka, ZooKeeper, Hive

Software Developer, Lineapp (personal project), Bratislava

January 2015 — December 2015

Lineapp was a universal event mobile application that dynamically adapted its design based on the user's GPS location, providing information on nearby events, concerts, and festivals, including event details, lineups, maps, and promoter information. Developed for both Android and iOS, it was deployed at approximately three local events on Android before being discontinued due to limited demand. This project was brought to life by a collaborative team of four developers.

- Screenshots: <https://github.com/axdel/linkedin/tree/master/lineapp>
- Tech stack: Debian, Nginx, Unicorn, Python/Django/RESTframework, PostgreSQL, Redis, Apache Cordova, AngularJS, Ionic

Software Developer, Reactor Inc., Bratislava

December 2013 — April 2015

Reactor functioned as an analytical and marketing tool that harnessed real time user actions to initiate corresponding triggers, akin to the functionalities found in contemporary platforms like exponea.com and ifttt.com. My responsibility encompassed the design and execution of various system components, primarily focusing on the integration and upkeep of third-party data sources (plugins). These plugins facilitated a diverse array of action trigger scenarios, ranging from

weather forecasts and sports outcomes to stock market fluctuations and Shopify orders. I was part of a dedicated team of 10 developers.

Software Developer + RaspeberyPi, MagicMirror (personal project), Bratislava

January 2014 — December 2014

MagicMirror was a hybrid digital-analog project aimed at creating a smart, semi-transparent mirror with an LCD display positioned behind it. For a visual representation, photos and videos are available at the provided link. The project was discontinued due to the limitations of semi-transparency; while it may appear fully reflective and normal in photographs, the practical utility was not as effective as anticipated. This endeavor was a solo venture.

- Screenshots / Video:
<https://github.com/axdel/linkedin/tree/master/magicmirror>
- Tech stack: RaspberyPi, some display from amazon, Raspbian, CSS/JS

Software developer, Synopsi Inc., Bratislava

December 2011 — December 2013

Synopsi.tv was a personalized movie recommendation system leveraging machine learning. I was tasked with designing and implementing the data scraping, processing, and management components of the system. This included optimizing the database structure and ensuring robust, round-the clock data scraping via TOR/VPN/Proxy to circumvent bans and maintain data integrity from services like IMDb, Netflix, Amazon Prime, TVRage, BlinkBox, Hulu, Vudu, Hitbliss, PirateBay, Letterboxd, CSFD, among others. Additionally, I developed a small side project named MovieMagnet, a Chrome extension that integrated torrent links from PirateBay into various movie websites. The development team consisted of 10 members.

- Screenshots / MovieMagnet:
<https://github.com/axdel/linkedin/tree/master/synopsitv>
- Tech stack: Debian, Nginx, Unicorn, Python/Django, PostgreSQL, Redis, MongoDB

Software Developer, Zoznam.sk, Bratislava

August 2008 — September 2011

At Zoznam.sk, the premier Slovak internet company, I was responsible for the design and implementation of a custom-built CMS framework for a variety of news e-magazines, including topky.sk, dromedar.sk, feminity.sk, autoviny.sk, and mojdrom.sk. My role extended to developing various internal tools, a newsletter system, and reusable plugins for the CMS framework, such as those for weather and stock data. An interesting challenge I tackled was gaining access to the MS SQL database used by the door badge system, for which I developed a small web-management utility, informally named "shitter," to facilitate easy modifications of door-badge entries. This utility featured a user-friendly login

with randomized images for a better user experience. I was part of a dynamic team of 15 developers.

- Screenshots: <https://github.com/axdel/linkedin/tree/master/zoznam>
- Tech stack: Apache, Perl, MySQL, MS SQL, Memcached

Software Developer, Freelance, Bratislava

January 2002 — August 2008

I designed and implemented custom-built CRM, CMS, and ERP applications utilizing Laravel and Symfony PHP frameworks. My expertise extended to customizing and developing plugins for open-source projects such as WordPress, Magento, and various e-commerce platforms, contributing to over 20 online stores. Additionally, I was responsible for creating frontend designs, embodying the role of a full-stack developer in today's terminology.

- Tech stack: Apache, PHP, MySQL, Memcached, HTML/DHTML/JS/CSS, Corel Draw/Photopaint later Adobe Illustrator/Photoshop

Education

Information Technology, Slovenská technická univerzita v Bratislave

January 2002 — January 2007

Physics, Masaryk University Brno

January 2015 — January 2016