

Konstantin Litvin

Python Developer

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St.-Petersburg, Russia

Skills

Programming:

Python, Flask, websockets, asyncio, aiohttp, Cython

Data Engineering:

PostgreSQL, SQLite, pandas, ArcticDb

Data Science & Visualization:

Dash, matplotlib

Tools & Infrastructure:

Git, Bash, Linux, Docker

Languages

- Russian (native)
- English (B1)

Experience

Python developer | Freelance | 03/2022 - Present

- **Visualization Tool for Cadastral Register Documents**

Developed a GUI tool to parse cadastral XML documents, enabling dynamic object visibility control and significantly enhancing client efficiency.

`pandas` `matplotlib` `tkwidgets` `pyinstaller`

- **Bic**

Developed a daily data fetching service from the mpstats API, implementing robust API requests, data processing, and error handling, with seamless integration into a PostgreSQL database.

pandas PostgreSQL mpstats api

- **Optimal delivery route calculation**

Developed a GUI program to process Excel files with shop coordinates and territory data, allocating shops within territories and calculating optimal delivery routes from courier locations.

pandas tkinter geopy pyinstaller

Python developer | Freelance | Upwork | 11/2019 - 10/2022

Completed around 10 projects as a Python developer, specializing in financial applications.

- **Trading volume anomalies detection**

Developed a Twitter service for real-time detection of trading volume anomalies, focusing on sudden shifts in statistical properties and unexpected appearance of significant new price levels. Utilized websockets library for the live capture and processing of order book data and trading history.

Websockets pandas asyncio SQLite twitter api

- **Opium Protocol**

Worked on developing a Hummingbot connector using Python. Responsibilities included implementing and testing the necessary functionalities. Collaborated with the team to troubleshoot and debug issues.

asyncio Cython aiohttp

- **Q21 Capital**

Developed an Order Execution and Management System that divides a position into randomly-sized smaller orders, executing them over a specific period across various exchanges for optimal execution.

aiohttp AWS (lambda EC2 ECR DynamoDb Docker

- **Additional Projects**

Throughout various other smaller projects, I acquired skills and experience in the following tools and technologies.

pandas pytest matplotlib flask ArcticDb SQLite backtrader Dash
TradingView pinescript

Software Engineer | Planemo Capital | 01/2018 - 10/2019

- Collaborated with a team to develop an automated trading system by applying diverse strategies such as mean reversion (cross-exchange arbitrage) and trend-following strategies using various types of moving averages.
- Applied GARCH for volatility prediction, informing volatility targeting and optimizing position sizing strategies.
- Computed key trading risk-performance metrics including the Sharpe Ratio, Sortino Ratio, and Ulcer Index.
- Conducted backtesting with statistical methods to validate trading strategies and mitigate overfitting.

talib matplotlib pandas scikit-learn

C# Developer | Freelance project | 11/2013 - 02/2014

- Collaborated with a researcher from the Faculty of Information Measurement and Biotechnical Systems on a university thesis project. Designed and developed an online questionnaire to estimate patients' quality of life. Automated processes provided projections on the progression of specific diseases.

R (ANOVA) Entity Framework MySQL ASP.NET HTML CSS

Software Engineer | Vsevolozhskiy Plant of Aluminum Alloys LLC | 11/2012 - 10/2017

- Worked as part of a team developing an embedded system and software solution for sorting scrap metals and separating minerals using x-rays. Responsibilities included:
 - Software architectural design.
 - Software development using C# .NET.
 - GUI design using WinForms.
 - Collaboration in the design of the embedded system.
 - Coding software.
 - Programming Atmel microcontrollers with C.
 - Technologies: OOP, C#, WinForms, Embedded C.

OOP C# WinForms Embedded C

Engineering Intern, Faculty of Electronics | Saint Petersburg Electrotechnical University | 05/2012 - 07/2012

- Participated in developing a stomatology 3D scanner, which included studying the machine's vision system and calculating distances using cameras.

C++ OpenCV

Engineering Intern | Senergys LTD | 01/2011 - 06/2011

- Developed an electronic timing system for dog races (dog agility), utilizing a microcontroller and infrared detectors.
- Built a prototype and designed the circuit diagram.
- Programmed Atmel microcontrollers using Assembler and C.

Assembler C

Engineering Intern | Senergys LTD | 05/2010 - 09/2010

- Contributed to the development and debugging of a refrigeration system for a microwave processing system using PLC and HMI, and took part in programming PLC and HMI.

PLC HMI

Education

Saint Petersburg Academic University | 09/2015 - 07/2016

- Retraining program in Information Technologies.

Saint Petersburg Electrotechnical University "LETI" | 09/2011 - 06/2013

- Master's Degree in Electronics and Nanoelectronics (Microwave and Telecommunication Electronics).
- Thesis: Development of Supervisory Control and Data Acquisition Systems for Fast Sorting Machines.

Saint Petersburg Electrotechnical University "LETI" | 09/2007 - 06/2011

- BS in Engineering and Technology (Electronics and Microelectronics).

Projects

Backend developer | Hackathon Sochi «Цифровой прорыв» | 11/10/2023 - 15/10/2023

Case: Impact of Urban Infrastructure on Health.

**Backend developer | Hackathon Perm «Цифровой прорыв» |
27/10/2023 - 29/10/2023**

Case: Creation of a Product Safety Service.