Konstantin Litvin

(+7) 911-150-0475 | konstantinlitvin89@gmail.com | KonstantinLitvin | klitvin | konstantinlitvin.github.io
Sochi, Russia

Skills

Programming Languages: Python
Tools and Frameworks: Git, Linux, pandas, asyncio, Cython, aiohttp, Docker, Flask, Websockets, matplotlib
Database Tools: SQLite, ArcticDb, PostgreSQL
Languages: Russian (native), English (B1)

Experience

Python developer Freelance | YouDo 03/2022 - Present

- Most notable projects include:
  - **Visualization Tool for Cadastral Register Documents**
    - Developed a tool that parses cadastral XML documents and allows for control of object visibility in a GUI, significantly enhancing client efficiency
    - pandas, matplotlib, ttkwidgets, pyinstaller
  - **Bic**
    - Developed a service to fetch data daily from the *mpstats* API. Responsibilities included implementing API requests, processing data, and handling errors. The service was further integrated with a PostgreSQL database
    - pandas, PostgreSQL, mpstats api
  - **Optimal delivery route calculation**
    - Developed a GUI program that processed Excel files containing shop coordinates and territory information. The program determined the allocation of shops within territories and calculated the optimal delivery route between the courier's location and the shops in their territory
    - pandas, tkinter, geopy, pyinstaller

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

- Completed around 10 projects as a Python developer, specializing in financial applications. Most notable projects include:
  - **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
- Additionally, 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 developed 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
- Utilized GARCH for volatility prediction, informing both volatility targeting and effective 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
- Key technologies: Analysis of variance (ANOVA) using R, 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
  - 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

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

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 Hackaton Sochi «Цифровой прорыв» 11/10/2023 - 15/10/2023

- Case: Impact of Urban Infrastructure on Health
- Flask, pandas

Backend developer Hackaton Perm «Цифровой прорыв» 27/10/2023 - 29/10/2023

- Case: Creation of a Product Safety Service
- Pandas, nlp, sklearn, huggingface models