Ivan Zolin

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SUMMARY

SPbSTU graduate, Bachelor's Degree 2024. Has **2+ years** of programming experience, **Data Science & Research Experience**. Experience: Laboratory at SPbSTU, **finished 5+ ML research projects**. I reached **the Grand-Final of the Russian Scientific Competition** by Melnichenko, participated in conferences and competitions, and have **publications and achievements**. Technical skills: Python, C/C++, PyTorch, OpenCV, ML, DL, Computer Vision, NLP.

TECHNICAL SKILLS

Programming Languages: Python, C/C++ (parallel computing, structural design patterns), SQL, JavaScript, Tex
Libraries and Tools: PyTorch, OpenCV, Sklearn, Pandas, Numpy, matplotlib, Git, Docker, Linux, Django, ReactJs, Redis, PostgreSQL, BeautifulSoup, aiogram
Knowledge: Machine learning, Deep learning, Statistics, Advanced mathematics, Optimization methods, Algorithms and Data structures
Languages: Russian(Native), English(Intermediate, B1)

WORK EXPERIENCE

Data Scientist

Laboratory of Molecular Neurodegeneration at SPbSTU, Saint-Petersburg, Russia   *April 2023 - Present*

- Development of a **neural network (UNet, PyTorch)** denoising (noise reduction) for **3D images** obtained from a microscope. Average **PSNR: 40-46 dB** depending on noise level.
- Development of **automatic segmentation** of calibration samples (spheres) from a microscope (**OpenCV**). **Accelerated** the segmentation process by **hundreds of times**.
- Creating a **web service** (ReactJS, Django, Docker, Redis, Nginx) to **improve the quality of images** from a microscope (with built-in ML methods and NN models).Demo
- Creating an **AI assistant** for biological laboratories at Blue Sky Research based on a **RAG system**, which enables **answering scientific questions** (literature sources) and **grant organization** (grant websites), implemented as a Telegram bot.

Tech Lead, Software developer

Partner Finder (startup), Saint-Petersburg, Russia   *February 2023 - August 2023*

- Creating a search engine in the system for business offers (scikit-learn, nltk).
- Creating a recommendation system, combining it with other recommendations based on user information.
- Parsing an analog's site - getting data for training (ads and users) in json format.

Fullstack developer

Inream (startup), Saint-Petersburg, Russia   *November 2022 - December 2022*

- Make upload files (the current HTML page) to create personalized jobs based on them. Learn about deploying the app on Heroku.

EDUCATION

Peter the Great St. Petersburg Polytechnic University (SPbSTU)   **Saint-Petersburg, Russia**
Bachelor's Degree in Applied Mathematics and Computer Science, GPA: 4.53/5.00   *August 2020 - June 2024*

PROJECTS

- **The problem of the optimal area of the raft when turning**,
  Technologies : Optimization methods, Python, numpy, pygame, LaTEX.
  Multidimensional minimization by the Zoitendijk method of a rectangular raft with **two changeable projections** shaped like isosceles triangles. GitHub Demo
- **ToDo List Telegram bot (ru, en)**,
  Technologies: Python, SQL, Docker, aiogram, pewee, PostgreSQL.
  Telegram bot for creating, editing and deleting tasks. Supports **two languages: Russian and English**. The task consists of a description, date, time, periodicity, and files. GitHub

PUBLICATIONS AND ACHIEVEMENTS

- "Web service for confocal microscope point scattering function calculation and image deconvolution", CB&AI Computational biology and artificial intelligence for personalized medicine.   Link
- The Grand-final of the Andrey Melnichenko Russian Science Competition   Link
- Participation in the conference "Polytechnic for Life Sciences"   Link