Alexander Buyantuev

Saint Petersburg, Russia | alexbuyan.dev@gmail.com | +79112927153 | telegram 📲 | linkedin 💼 | github ⭘

Education

HSE University, BS in Applied Mathematics and Computer Science | Sept 2020 – June 2024

- **Coursework:** Algorithms and Data Structures, Python (Web/Backend), C/C++, Machine Learning, Databases, Computer Networks, Calculus, Linear Algebra, Discrete Mathematics, Probability Theory, Math Statistics
- **Yandex School of Data Analysis:** Deep Learning, Natural Language Processing, Reinforcement Learning

ITMO University, MS in Artificial Intelligence | Sept 2024 – Present

- **Research Interests:** Generative AI, AI Agents, Multi-Agent Reinforcement Learning, AI Security

Experience

ML Engineer (full-time), Huawei R&D | Sept 2023 – Present
AI Agents, LLM, RL

- Currently developing AI agents and LLM workflows for different business scenarios.
- Implemented RL-based congestion control algorithms and integrated them into the communication protocol. Gained up to 10% performance upgrade compared to previous solutions.
- Developed a research framework to design FEC codes for different environment conditions using RL.

ML Engineer (part-time), HSE University | Dec 2024 – Present
Laboratory for Theoretical Modeling in AI

- Successfully released to end users the RAG-based workflow fine-tuned for Q&A of psychology-related questions
- Implemented LLM-based multi-agent workflow for complex data analysis tasks and deployed it in the production environment

ML Project Manager (part-time), ITMO University | Sept 2024 – Dec 2024
AI Security Lab by Raft

- Was part of the LLM Monitoring team behind the HiveTrace and helped the project gain popularity and first customers
- Contributed the Continuous Monitoring section to OWASP GenAI Red Teaming Guide.
- Helped with translation of the OWASP Top 10 for LLM.

Software Engineering Intern, Huawei R&D | Nov 2022 – Sept 2023

- Designed a tool to represent the LLVM IR module in C-like format that restores packages, classes and functions from Cangjie source code
- Tested the tool on 300+ open-source Cangjie projects
- Distributed the tool inside Cangjie Team for analysis of compiler's generated code by other developers

Awards

Concordia Contest, Google DeepMind, Cooperative AI | Dec 2024

In a team of 3 researchers *became finalists* of a competition organized by Google DeepMind and Cooperative AI Foundation during NeurIPS 2024 conference. Planning to publish a report on NeurIPS 2025.

Technologies

Programming Languages: Python, C++

AI frameworks: PyTorch, Hugging Face Transformers, LangChain, LangGraph, AutoGen, crewAI, OpenAI Agents SDK, vLLM, MCP, scikit-learn, Pandas, NumPy

Technologies: git, uv, FastAPI, Docker, Pydantic

Languages: Russian, English (C1)

Projects

LLM Monitoring project ⏱ Sept 2024
- Integrated toxic classifier into LLM pipeline using LangChain
- Developed LangChain and REST API connectors using LangServe
- Configured project's observability using LangSmith
- <u>Presented</u> the project on AI Product Hackathon

Telegram bot with integrated RAG pipeline ⏱ June 2024
- Developed RAG pipeline using Llama3:8b (self-hosted using Ollama) and sentence-transformers
- Created vector database on user's PDF files using Chroma
- Connected the pipeline with Telegram bot for easy interaction

Movie rating prediction in Hadoop ⏱ Dec 2024
- Set up Hadoop and Spark to work with data
- Trained SGDRegressor to predict the movie rating based on tags

Multilingual Embedding-based Machine Translation ⏱ Sept 2023
- Implemented embedding space mapping using linear regression and SVD
- Developed word-based translator from Ukrainian to Russian

YouTube video comment generator Apr 2022
- Trained GPT-2-Large on dataset of US videos and comments
- Developed an app to interact with the model using PyTube and Gradio

PDF Editor with LaTeX support ⏱ Mar 2022 - June 2022
- Designed a converter of UI objects to PDF document to transfer project's data to PDF file
- Implemented rendering of LaTeX equations to allow users to work with math formulas
- Developed a utility to download and save user's files
- Added font support in UI and PDF to empower the customization of documents

Messenger with Trello boards ⏱ Jan 2021 - May 2021
- Hosted PostgreSQL database and developed API for interaction
- Added team boards support using Trello API