

# ALEXANDER BUYANTUEV

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## EDUCATION

### HSE University

Saint-Petersburg, Russia

*Bachelor of Applied Mathematics and Computer Science*

*Sep. 2020 - Aug. 2024*

- **Relevant courses:** *Algorithms and Data Structures, C/C++, Java, Python for Web, Python for Backend, Machine Learning, Databases, Computer Networks, Calculus, Linear Algebra, Discrete Mathematics, Probability Theory, Math Statistics*
- **Yandex Data School courses:** *Machine Learning, Natural Language Processing*

## SKILLS

**Programming languages:** Java, C/C++, Python, Haskell, TypeScript

**Technologies and Frameworks:** git, SQL, Docker, L<sup>A</sup>T<sub>E</sub>X, Manim

**Languages:** Russian, English (C1)

## WORK EXPERIENCE

### Software Engineer Intern

*Nov. 2022 - Present*

Huawei R&D, Cangjie Team

Saint-Petersburg, Russia

### CSV support for Data-Driven Testing in Cangjie | Cangjie

Sep. 2023

- Implemented CsvParser in Cangjie to **parse** data from CSV files
- Developed CsvStrategy to provide data for unit tests and **contributed** it to Cangjie Test Framework

### LLVM IR decompiler for Cangjie | C++, Python, GoogleTest

Nov. 2022 - June 2023

- Designed a tool to represent LLVM IR module in C-like format that restores packages, classes and functions from Cangjie source code to **speed up** compiler's generated code analysis
- Implemented LLVM GEP instruction printer to show class field and it's type when accessed by the pointer to **improve** code readability
- Downloaded source code from 300+ open projects on Cangjie and created test cases from source code to **test** the tool
- Developed a parallel testing framework that runs 30 test cases with 100000 lines each under 1 minute to **fix bugs** in my tool
- **Distributed** the tool inside Cangjie Team for analysis of compiler's generated code by other developers

## PROJECTS

### Multilingual Embedding-based Machine Translation 🌐 | Python

Sep. 2023

- Loaded **embeddings** for Russian and Ukrainian
- Implemented embedding space mapping using **Linear Regression**
- **Increased** results with orthogonal transformation **SVD**
- Developed **word-based translator** from Ukrainian to Russian

### YouTube videos comments project 🌐 | Python

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
- Uploaded project to **Hugging Face**

### Hybrid Strategy for Timeseries 🌐 | Python

Apr. 2022

- Implemented hybrid strategy for timeseries from **this dataset**
- The solution got **MSE 33.97**

### ResNet18 🌐 | Python

Mar. 2021

- Developed ResNet18 using PyTorch

### Backpropagation 🌐 | Python

Feb. 2022

- Implemented backprop for **BatchNormalization**
- Implemented backprop for **Dropout**