VADIM ATLASSOV

vadim.atlassov@nu.edu.kz

EDUCATION

M.Sc. in Electrical & Computer Engineering, Minor: Deep Learning,
Nazarbayev University — June, 2023
GPA: 3.21/4.00

B.Eng. in Electrical Engineering,
Brno University of Technology, Czech Republic — March, 2019
GPA: 3.2/4.00

Government Academic Excellence Exchange Winner: Selected for the Government Academic Exchange program, based on academic merit.

B.Eng. in Instrument Engineering,
East Kazakhstan Technical University — June, 2020
GPA: 3.71/4.00

SKILLS & LANGUAGES

Programming

- Python, PyTorch, TensorFlow, JAX, CUDA, MLX, Numpy, SQL, Pandas, Matplotlib
- Hugging Face Transformers, SentencePiece, Tokenizers, NLTK, SpaCy, FastText, Gensim

NLP and Large Language Models

- Large Language Models (LLMs), Transformers (BERT, GPT, LLaMA)
- Tokenization, Text Embeddings, Attention Mechanisms
- Pretraining, Fine-tuning, Prompt Engineering
- Retrieval-Augmented Generation (RAG), Knowledge Distillation

Embedded Systems & Bare-metal

- Rust, C programming language

Language Proficiency

- Russian (Native), English (IELTS 7.0), Kazakh (B2), Czech (B2), German (A1)

Algorithms and DS

- LeetCode Profile

RESEARCH EXPERIENCE

Research Assistant — July, 2022 - May 2023
ALARIS Lab, School of Engineering and Digital Sciences, Nazarbayev University — Astana, Kazakhstan

Assisted Professor Almas Shintemirov with the application of deep learning and computer vision in a robot arm UR-5:

- Developed a CNN model for controlling a robot arm in 3D space (6 DoF joints manipulation).
- Integrated an IBVS (image-based visual servoing) optimization algorithm, reducing pose error to 10.2mm (translation) and 2.1° (rotation) in a multi-input/multi-output setup.
- Implemented a feedback control system that reduced movement lag and tilt in the robot arm.

Research Projects November, 2024 - Present
School of Engineering and Digital Sciences, Nazarbayev University Astana, Kazakhstan

- Deployed LLama 3 Large Language Model with retrieval-augmented generation (RAG)
- Developed a custom DistilBERT Seq2Seq model with a decoder for abstractive text summarization, optimizing for coherence of summaries, **achieved ROUGE-L-mid score of 21.3**.
- Designed and implemented an LLM-powered RAG system for efficient retrieval of information from a ChromaDB vector database and contextual response generation.

HONORS AND FELLOWSHIPS

2021–2023 Graduate Students' Representative (4th GPA in class) **Nazarbayev University**
Astana, Kazakhstan

2019 Government Academic Exchange Stipend Winner **East Kazakhstan State Technical University**
Ust-Kamenogorsk, Kazakhstan

2018 2nd Top GPA Student Award (1/1500) **East Kazakhstan State Technical University**
Ust-Kamenogorsk, Kazakhstan

WORK EXPERIENCE

Internship - Software Engineer Aspans, Kazakhstan March 2024 - June 2024

- Contributed to the development face-detection&recognition system for malls (counting visitors, VIP guests, thiefs).
- Integrated Kalman filters for visitor tracking, reducing RMSE counting error from 62.1% to 53%

Manual QA Tester, Yandex LLC, Almaty, Kazakhstan October, 2019 - September 2021

- Conducted manual testing of GIS & Cloud mobile applications (Yandex Maps, Disk)
- Filled bugreports and conducted tests with edge cases (user input scenarios)