Yaroslav (Yar) Mikhaylik

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Education

Computer Science - Mathematics Joint Honours SEP 2018 - DEC 2022
University of Manitoba, Bachelor of Science

Technical Skills

PROGRAMMING C/C++, Python, CUDA, JavaScript/Node, Java, C#, ARM/MIPS/x64 Assembly
TECHNOLOGIES TensorFlow, PyTorch, Spark, Hadoop, LLVM, Django, Vue, Kubernetes, OpenGL

Experience

Huawei Technologies Canada, Big Data Engineer JAN 2023 - PRESENT

- Developed a signed code transfer procedure that enables efficient hotloading on the ARM TrustZone proprietary operating system, enhancing both update speed and security.
- Shipped a versatile C++ Just-In-Time (JIT) Compilation engine using LLVM, for broad application across any C++ codebase, yielding up to 25% performance gains.
- Sped up a proprietary database engine, achieving 10% improvement in hash aggregation, 40% in column sorting, and 10% in join operations.
- Participating in strategic discussions with headquarters regarding direction for performance improvements, showcasing strong teamwork and communication skills.
- *Lead research of the novel graph-based approximate nearest neighbor vector database index with the state-of-the art recall and 10% QPS increase.*
- *Coordinated allocation of hardware resources for building a multi-node big data cluster for processing terabytes of raw data.*
- *Leading development of in-house distributed data cleaning platform for LLM pretraining and finetuning, backed by the in-house hardware.*

FarmLink Solutions, Fullstack Software Developer MAY 2020 - DEC 2022

- Built a modern cross-platform web app with Vue, Django and MySQL which provides agricultural farming market insights to crop farmers.
- Interview candidates for the team with original problem sets, reviewed developers' code daily, and supervised Co-Op students.
- Parallelized GitHub Actions CI/CD pipeline with automated unit and integration tests, and deployments, with +33% speedup from a sequential pipeline.
- Introduced a containerized docker environment to increase developers' code throughput, and stability and consistency of production deployments.
- *Constantly improved production infrastructure with containerization, cloud instance updates and master-slave database replication with 99.999% uptime.*

Publications

Development of Convolutional Neural Network for Defining a Renal Pathology Using Computed Tomography Images OCT 2022
Advances in Neural Computation, Machine Learning, and Cognitive Research VI
Kabachenko, F., Samarina, A., Mikhaylik, Y