Hamidreza Ramezani-Kebrya

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Work Experience

TELUS *Software Engineer Contractor* May 2023 - Jan 2024
- Develop and test an SDN mediation layer to translate the vendor proprietary management of network equipment functions and protocols into an open and standard API into the network.
- Use Cisco NSO to develop the mediation layer that is mainly made up of service and action packages.
- Write automated tests to validate service and action packages.

UBC *Teaching Assistant (Distributed Systems)* Jan 2022 - Dec 2024
- Support students to build a distributed in-memory key-value store on a cloud testbed.
- The Key-value server is supposed to meet different criteria like Sequential Consistency, At-Most-Once Semantic, Fault Tolerance, Scalability, Performance, and Availability.

IST Austria *Research Intern (Federated Learning)* Aug 2020 - Aug 2021
- Add quantization scheme into NVIDIA Collective Communication Library.
- Have 2x speed-up without losing significant accuracy.
- Have 20% speed-up in training transformers when pytorch uses QNCCL as the communication backend.

EPFL *Research Intern (Agent-Based Modeling)* Jun 2019 - Aug 2020
- Optimize the bulk-synchronous parallel (BSP) model for agent-based simulations

Education

M.A.Sc. in Computer Engineering Jan 2022 - Nov 2024
University of British Columbia

B.Sc. in Computer Engineering Sep 2014 - Oct 2019
Amirkabir University of Technology

Publications

Hamidreza Ramezanikebrya, and Matei Ripeanu. (re)Assessing Processing-in-Memory Effectiveness for Sequence Alignment. In *Euro-Par'24*
****Best Paper Award Nominee****.

Ilia Markov, **Hamidreza Ramezanikebrya**, and Dan Alistarh. CGX: Adaptive System Support for Communication-Efficient Deep Learning. In *Middleware'22*
****Best Paper Award Runner-up****.

Technical Skills

Programming and scripting: Java, Scala, C, C++, Cuda, Python, Bash, Tcl

Data analysis: Numpy, Pandas, Matplotlib, Jupyter, SQL

Big data: PySpark, Databricks

Edge Computing: Jetson AGX, Jetson Nano, Raspberry Pi

Other: Docker, Cisco NSO, Postman, Yang, Gitlab CICD, Kubernetes, GKE, GCP, AWS, Helm, Terraform, Packer, Protobuf, HPC