Ivan Lazarevich

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○ lzrvch

Experienced deep learning research and development engineer. Skilled in deep learning, classical machine learning and Python. Looking for an applied deep learning researcher / deep learning engineer position.

Skills and expertise

Python, Linux, git, CI/CD (Jenkins, Travis CI). Frameworks: PyTorch, TensorFlow, numerical computing / data science libraries (numpy, scipy, sklearn, pandas, jupyter).

Experience

2021– **Lead Deep Learning Engineer**, *Deeplite*
- ○ Hardware-aware neural architecture search for deployment on resource-constrained edge devices.
- ○ Development of state-of-the-art efficient object detection models for edge hardware and microcontrollers.
- ○ Ultra-low bitwidth quantization of neural networks.

2019–2021 **Senior Deep Learning R&D Engineer**, *Intel Corporation*
- ○ Development of state-of-the-art neural net compression algorithms from prototype to productization (with focus on quantization and pruning methods).
- ○ Core developer of Intel OpenVINO network optimization tool for efficient low-bitwidth post-training quantization and pruning of neural nets (link).
- ○ Developer of Neural Network Compression Framework in PyTorch/TensorFlow (github link).

2017–2019 **Software Engineer**, *Intel Corporation*
- ○ R&D in optimization of parametric models for molecular dynamics (MD) simulations
- ○ Usage of machine learning/deep learning approaches to drive MD modeling

2015–2017 **Software Engineering Intern**, *Intel Corporation*
- ○ Research and development of atomistic simulation tools (molecular dynamics) for industrial process modeling

Selected papers

[1] **Lazarevich, Ivan**, A. Kozlov, and N. Malinin, "Post-training deep neural network pruning via layer-wise calibration," *ICCV 2021 Low-Power Computer Vision Workshop*, 2021.

[2] **Lazarevich, Ivan**, M. Grimaldi, R. Kumar, S. Mitra, S. Khan, and S. Sah, "Yolobench: Benchmarking efficient object detectors on embedded systems," *ICCV 2023 Resource Efficient Deep Learning for Computer Vision Workshop*, 2023.

[3] A. Kozlov, **Lazarevich, Ivan**, V. Shamporov, N. Lyalyushkin, and Y. Gorbachev, "Neural network compression framework for fast model inference," in *Intelligent Computing*, pp. 213–232, Springer, 2021.

[4] J. Lussange, **Lazarevich, Ivan**, S. Bourgeois-Gironde, S. Palminteri, and B. Gutkin, "Modelling stock markets by multi-agent reinforcement learning," *Computational Economics*, vol. 57, no. 1, pp. 113–147, 2021.

[5] M. Grimaldi, D. Ganji, **Lazarevich, Ivan**, and S. Sah, "Accelerating deep neural networks via semi-structured activation sparsity," *ICCV 2023 Resource Efficient Deep Learning for Computer Vision Workshop*, 2023.

[6] **Lazarevich, Ivan**, I. Prokin, B. Gutkin, and V. Kazantsev, "Spikebench: An open benchmark for spike train time-series classification," *PLOS Computational Biology*, vol. 19, no. 1, p. e1010792, 2023.

[7] M. AskariHemmat, R. A. Hemmat, A. Hoffman, **Lazarevich, Ivan**, E. Saboori, O. Mastropietro, Y. Savaria, and J.-P. David, "Qreg: On regularization effects of quantization," *ICML 2022 Hardware Aware Efficient Training Workshop*, 2022.

Education

2017–2021 **Doctorate**, *École normale supérieure*, Paris, France
Researching machine learning approaches for the diagnosis of early-stage neurodegenerative diseases.