Vladislav Serkov

Senior Machine Learning Engineer I Deep Learning Expert

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Summary

Dedicated Senior Machine Learning Engineer with deep expertise in Python and deep learning, notably in computer vision applications. Demonstrated ability in enhancing data processing efficiencies, elevating model accuracies, and reducing operational expenditures. Skilled in leveraging multimodal techniques to exceed project benchmarks, with a history of delivering complex AI solutions.

Key Skills & Technologies

- Deep Learning: Design, optimization, and implementation of neural networks for vision, point cloud, and text data.
- Computer Vision: Proficiency with CNNs, object detection, image segmentation, sensor fusion, and OpenCV.
- Machine Learning Tools: Hands-on experience with PyTorch, Scikit-learn, AWS Sagemaker, and HF Transformers.
- MLOps: Model deployment with BentoML, Flask, experience with vector databases and PostgreSQL, CI/CD and infrastructure as a code with Ansible.
- Multimodal LLMs: Practical application of BERT, fine-tuning Stable Diffusion with LORAs, CLIP embeddings, and prompt engineering.
- Model Optimization: Proficient in model quantization, pruning, and compression techniques.
- Languages and tools: Proficient in Python, SQL, Bash, with practical use of Docker and Git.
- Team Leadership: Guided junior scientists and supported tech development effectively.

Professional Experience

Senior Deep Learning Engineer, SharperShape, September 2019 - Present

- Achieved a 50% reduction in 3D point cloud segmentation time through a new graph neural network design.
- Streamlined model training processes, reducing time from 7 days to 20 hours and cutting associated costs by 80%.
- Enhanced object detection, classification, and segmentation pipelines, increasing labelling team efficiency by 50-70%.
- Developed a tree species classifier using hyperspectral data, achieving a 30% higher accuracy rate compared to the RGB baseline.
- Decreased the false negative rate in object detection by 30% through innovative LiDAR and RGB data fusion.
- Refined RGB camera and LiDAR sensor calibration by 15% via advanced edge and line detection algorithms.
- Contributed to team development by delivering over 10 educational sessions on insights and best practices.
- Standardized development workflows, including PR reviews and coding standards implementation for the team.

Deep Learning Engineer, Dexpa, November 2018 - August 2019

- Designed a neural network for time-series forecasting that surpassed human accuracy benchmarks by 3%.
- Conducted research on state-of-the-art methodologies for financial markets.
- Successfully mentored an intern to transition to a full-fledged data scientist role within one year through practical project involvement.

Senior Data Scientist, Stream, DCA, Flocktory, Mamsy, March 2014 - October 2018

- Developed a person identification system utilized by over 100 employees for event imagery management.
- Enhanced a high-load real-time bidding system, significantly increasing system profitability.
- Assembled a comprehensive embedding catalog of 100M web pages, facilitating efficient web page categorization.
- Clustered 300M users according to interests using advanced data analysis techniques.
- Implemented a customer purchase matching tool by establishing a unified product taxonomy with NLP methodologies.
- Improved banner ad placement effectiveness using reinforcement learning strategies.

Education

National Research University Higher School of Economics

Economist, September 2008 - August 2013