Levon Khachatryan

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Summary

Senior machine learning researcher specializing in computer vision, with expertise in generative modeling, segmentation and classical computer vision. Currently driving innovation at Picsart, where I contribute to groundbreaking projects in image and video domains. Additionally, I share my knowledge and expertise as a Computer Vision Lecturer in the Applied Statistics and Data Science Master's program at YSU, while also supervising master's theses for students.

Education

MS **Yerevan State University**, Applied Statistics and Data Science, Sept. 2018 to May 2020

- GPA: 19.75/20.0
- **Coursework:** Statistics, Time Series Analysis, Optimization Theory, Deep Learning, Computer Vision, Digital Signal Processing, Machine Learning, Comparison of Learning Algorithms.

BS **Yerevan State University**, Applied Mathematics and Informatics Sept. 2014 to May 2018

- GPA: 18.25/20.0
- **Coursework:** Mathematical Analysis, Linear Algebra, Discrete Mathematics, Software Foundations, Computer Architecture, Algorithms, Computational Theory.

Experience

Picsart, Senior Machine Learning Scientist Apr. 2020 to *Now*

- Contributed as one of the main scientists to various GenAI projects, including text-to-video, text-guided video editing, and specialized/personalized video generation initiatives.
- Played a pivotal role as one of the main scientists in the development of a state-of-the-art background remover tool, recognized as one of the top methods globally upon release.
- Developed and optimized deep learning algorithms for person segmentation tasks, ensuring high accuracy while enabling efficient deployment on mobile devices.

YSU, Adjunct Lecturer Sep. 2023 to *Now*

- Serve as a Computer Vision Lecturer in the "Applied Statistics and Data Science" Master program, instructing on classical and deep learning-based computer vision algorithms, while also supervising master's theses for students.

YSU, Teaching Associate Sep. 2020 to May. 2023
2 years 8 months

- Conducted office hours, practical sessions, and supervised master's theses for students.

Sololearn, Data Scientist Apr. 2019 to Apr. 2020
1 year

- Organized and analyzed large datasets from diverse sources, including web APIs and internal databases, to derive actionable insights and identify trends.
- Leveraged advanced programming skills to efficiently process structured and unstructured data, applying filters and conditions to facilitate analysis.
- Created meaningful data visualizations to communicate findings and proposed data-driven solutions to address business challenges, contributing to informed decision-making processes.

Synergy International Systems, Database Developer — Oct. 2016 to Mar. 2019 (2 years 6 months)

- Implemented Backup and Restore strategies, data replication, and automatic schema/script generation for continuous integration.
- Led database optimization efforts, identified server bottlenecks, and conducted benchmark comparisons to select suitable databases.
- Initiated and participated in research projects exploring MongoDB, PostgreSQL, and other database technologies.

Publications

L. Khachatryan, R. Henschel, D. Hayrapetyan, H. Poghosyan, V. Tadevosyan, Z. Wang, Sh. Navasardyan, H. Shi. **StreamingT2V: Consistent, Dynamic, and Extendable Long Video Generation from Text**, *arXiv preprint, 2024.*

B. Atanyan, ***L. Khachatryan***, Sh. Navasardyan, Y. Wei, H. Shi. **Continuous Adaptation for Interactive Segmentation Using Teacher-Student Architecture**, *Proceedings of the IEEE/CVF Winter Conference on Applications of Computer Vision, 2024.*

L. Khachatryan, A. Movsisyan, V. Tadevosyan, R. Henschel, Z. Wang, Sh. Navasardyan, H. Shi. **Text2Video-Zero: Text-to-Image Diffusion Models are Zero-Shot Video Generators**, *Proceedings of the IEEE/CVF International Conference on Computer Vision, 2023.*

J. Guo, H. Manukyan, Ch. Yang, Ch. Wang, ***L. Khachatryan***, Sh. Navasardyan, Sh. Song, H. Shi, G. Huang. **FaceCLIP: Facial Image-to-Video Translation via A Brief Text Description**, *IEEE Transactions on Circuits and Systems for Video Technology, 2023.*

S. Jiao, V. Goel, Sh. Navasardyan, Z. Yang, ***L. Khachatryan***, Y. Yang, Y. Wei, Y. Zhao, H. Shi. **Collaborative content-dependent modeling: A return to the roots of salient object detection**, *IEEE Transactions on Image Processing, 2023.*

Skills

Professional experience: Computer Vision, Machine Learning, Software Development

Programming: Python, SQL, C/C++

Library: Pytorch, Tensorflow, NumPy, OpenCV

Operating System: Linux, Mac OS

Language: English (fluent), Armenian (native), Russian (fluent)

Other: Git, LaTeX, SLURM