IGOR MELNYK

Capital One ⋄ AI Foundations ⋄ New York, NY
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SUMMARY

Distinguished Applied Researcher at Capital One with 9+ years of experience working in the areas of Machine Learning and AI with the focus on Generative models in Natural Language Processing, Computer Vision and Biology

EDUCATION

PhD in Computer Science and Engineering, University of Minnesota, Mineapolis, MN — June, 2016

MS in Computer Science, University of Colorado, Boulder, CO — May, 2009

BS in Computer Science, Dnipro National University, Dnipro, Ukraine — June, 2004

RESEARCH INTERESTS / SKILLS

Machine Learning / AI — Generative Models, Knowledge Graph, Protein Design, Anomaly Detection Style Transfer, Information Theory, Image Captioning

Technical Skills — Python/C++, Pytorch/Tensoflow

EXPERIENCE

Distinguished Applied Researcher — Aug 2024 - Present
Capital One — *New York, NY*

Research Staff Member — Sep 2016 - Aug 2024
IBM Research AI — *Yorktown Heights, NY*

Research Assistant — Sep 2009 - June 2016
University of Minnesota — *Minneapolis, MN*

Data Scientist — May 2014 - Aug 2014
NASA Ames Research Center — *Mountain View, CA*

Software Developer — May 2008 - Aug 2008
Cisco Systems — *Boulder, CO*

SELECTED PUBLICATIONS

- EpMAN: Episodic Memory AttentioN for Generalizing to Longer Contexts, *ACL, 2025*
- AlphaFold Distillation for Protein Design, *Scientific Reports, 2025*
- Distributional Preference Alignment of LLMs via Optimal Transport (AOT) *NeurIPS, 2024*
- Larimar: Large Language Models with Episodic Memory Control, *ICML, 2024*
- Risk Aware Benchmarking of Large Language Models, *ICML, 2024*
- Reprogramming Pretrained Language Models for Antibody Sequence Infilling, *ICML, 2023*
- Knowledge Graph Generation From Text, *EMNLP, 2022*

SELECTED CODE

- github.com/huggingface/trl: Alignmnet via Optimal Transport (AOT) is part of HuggingFace TRL library
- github.com/IBM/AFDistill: AlphaFold Distillation for Inverse Protein Folding
- github.com/IBM/ReprogBERT: Model Reprogramming for Antibody Design
- github.com/imelnyk/ArxivPapers: Arxiv Papers Digest