Nima Kondori

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The University of British Columbia, Vancouver, BC Canada V6T 1Z4

EDUCATION

University of British Columbia (UBC)

Master of Applied Science in Electrical and Computer Engineering, GPA: 93.1/A+. Supervisors: Dr. Renjie Liao and Dr. Purang Abolmaesumi

University of British Columbia (UBC)

Bachelor of Applied Science in Electrical and Computer Engineering, GPA: 88/A.

SKILLS

Machine Learning

· Generative AI, Diffusion Models, Vision Transformers, Vision-Language Models, LLMs, NLP, PyTorch, TensorFlow, Pandas, NumPy, Data Science, Deep Learning.

Software

· Python, Java, C++, PostgreSQL, Elasticsearch, Docker, Cloud Computing, Kubernetes, Helm, AWS, EKS, Rest API, Object-Oriented Programming, Remote Development.

EXPERIENCES

Scenebox (Applied Intuition)

Machine Learning Engineer

- Developed a similarity search service capable of producing a list of 100 similar images in 30 milliseconds.
- Scaled up the similarity search service by a factor of 10 allowing queries for up to 100,000 similar images.
- Transitioned a large-scale Elasticsearch service to PostgreSQL, 5x increase in query size and a 25% boost in processing speed.
- Transitioned self-managed services to AWS-managed services yielding a 30% decrease in cloud costs.

RESEARCH EXPERIENCES

University of British Columbia (UBC)

Research Assistant, Advisors: <u>Dr. Renjie Liao</u> and <u>Dr. Purang Abolmaesumi</u>

- · Built a novel large video diffusion model inspired by ControlNet to generate synthetic ultrasound videos of the heart conditioned on the patient's other acquired views.
- Utilized the generated data to curate an augmented dataset and train a supervised ejection fraction estimation model achieving state-of-the-art performance.

Undergraduate Research Assistant

Applied Undergraduate Researcher, Mentor: Dr. Purang Abolmaesumi

- · Launched an Android mobile application for real-time heart ultrasound image analysis, achieving a 30% increase in processing speed and user experience.
- · Integrated the application with third-party tools, enhancing data visualization and patient engagement.

PUBLICATIONS & SUBMISSIONS

N. Kondori, H. Liang, H. Vaseli, B. Xie, C. Luong, P. Abolmaesumi, T. Tsang, and, R. Liao, "ControlEchoSynth: Boosting Ejection Fraction Estimation Models via Controlled Video Diffusion", Data Curation and Augmentation in Enhancing Medical Imaging Applications Workshop at CVPR 2024.

H. Vaseli, A. Gu, N. Ahmadi, M. Tsang, A. Fung, N. Kondori, A Saadat, P. Abolmaesumi, and T. Tsang "ProtoASNet: Dynamic Prototypes for Inherently Interpretable and Uncertainty-Aware Aortic Stenosis Classification in Echocardiography," In Medical Image Computing and Computer Assisted Intervention -MICCAI 2023. [arXiv]

Sep. 2022 - Dec. 2024 Vancouver, Canada

Sep. 2017 – May 2020 Vancouver, Canada

Nov. 2020 - Aug. 2022

Vancouver, Canada

Sep. 2022 - Dec. 2024

Vancouver, Canada

Sep. 2019 - Aug. 2019 Vancouver, Canada