Philmore Koung

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SUMMARY

I'm a skilled Data Scientist with expertise in artificial intelligence/machine learning and statistical modeling for predictive analytics. My work has been recognized by esteemed international conferences and symposiums. I am project-oriented, hard-working, on-time and collegial.

EDUCATION

University of Texas at Dallas, Richardson, TX — Expected Graduation: May 2025
Master of Science, Mathematics Concentration in Data Science — GPA: 3.33/4.0
◇ **Thesis**: Topological Machine Learning for Biomedical Imaging; **Advisor**: Professor Baris Coskunuzer

University of Texas at Dallas, Richardson, TX — Graduation Date: December 2024
Bachelor of Science, Data Science

SKILLS

◇ **Programming Languages:** Python, R, SQL, NoSQL, MATLAB, C++.
◇ **Applications:** Tableau, MySQL, RStudio, Jupyter Notebook, VS Code, Anaconda, Excel, MongoDB, SQLite.
◇ **Frameworks:** Scikit-learn, NumPy, Keras, Tensorflow, PyTorch, Matplotlib, Pandas, OpenCV, PIL.
◇ **Additional Skills**: Machine Learning Modeling, Statistical Modeling, Data Analysis.

EXPERIENCE

Graduate Machine Learning Researcher, UT Dallas Topological ML Group — January 2024 - Present
◇ Created augmented deep learning models which achieved up to 30% increased test accuracy and AUROC over baseline models.
◇ Published papers and abstracts accepted by IEEE and ML4H.
◇ Collaborated with experts from UT Southwestern Medical Center, Imperial College London, and University of Arizona, College of Medicine-Tucson
◇ Helped 4 PhD Students with their research on deep learning.

Intern, Blinkfire Analytics — December 2022 - August 2023
◇ Curated 11 different datasets for new marketing campaigns containing up to 30,000 images and videos.
◇ Helped train deep learning models to classify logos and brands from sports games and events with up to 99.3% test accuracy.
◇ Worked cross-functionally on multiple projects with the customer success team and software engineering team.

PROJECTS

Multimodal Deep Learning for Biopsy Prediction to Save Donor Organs, First Author — January 2025 - Present
◇ Collaborating with the University of Arizona College of Medicine – Tucson to develop an end-to-end deep learning model to reduce waste of donated organs.
◇ Implemented semantic segmentation models and vision transformers to grade the usability of potential donor organs.

Diagnosing Blood Diseases and Disorders with Topological Deep Learning, First Author November 2024 - December 2024
◇ Utilized deep learning algorithms to classify 4 different blood diseases and disorders with over 95% test accuracy.
◇ Developed multimodal deep learning networks that achieve up to 3-5% increased test accuracy over pre-trained models.
◇ Collaborated with esteemed medical doctors and professors from UT Southwestern Medical Center.

Topological Few Shot Learning for Biomedical Imaging, First Author — October 2024 - November 2024
◇ Classified histopathological and cytomorphological images using deep learning with 94% test accuracy and AUROC.
◇ Demonstrated the efficacy of topological features for medical image analysis by achieving 10-15% increased test accuracy.
◇ Accepted by IEEE.

Topological Machine Learning for Low Data Medical Imaging, Second Author — February 2024 - September 2024
◇ Developed deep learning algorithms for 18 different medical image classification datasets ranging up to 200,000 images.
◇ Outperformed benchmark models by up to 20% test AUROC in limited data settings.
◇ Collaborated with Imperial College, London.
◇ Accepted by Machine Learning for Health (ML4H), previously part of NeurIPS.

PUBLICATIONS

◇ Brighton Nuwagira, Caner Korkmaz, **Philmore Koung**, Baris Coskunuzer; Proceedings of the 4th Machine Learning for Health Symposium, PMLR 259:824-838.
◇ **Philmore Koung**, Saba Fatema, Nagehan Pakasticali, Hung Luu, Baris Coskunuzer *Diagnosis of Blood Diseases and Disorders with Topological Deep Learning*, Under Review, 2025.