WEIHAN LUO

Math + CS + Stats

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https://weihan1.github.io

SKILLS

Languages:
Python, SQL, R, LaTeX, Java, C/C++

Technologies:
VS Code, PyTorch, TensorFlow, Spark, SAS, Bash, Unix, Git, Keras, NumPy, Pandas, Teradata

EXPERIENCE

DGP Lab, University of Toronto August 2023 - Present
Computer Vision Researcher, Host: David Lindell *Technologies: Pytorch-Lightning, NerfAcc, Instant-Nsr*

- Adapted state-of-the-art Implicit Surface Reconstruction techniques for Multiview Transient NeRFs.
- Introduced a new regularization prior that helps the radiance field learn a proper Signed Distance Function.
- Surpassed the SOTA method by achieving a 7% increase in PSNR.
- Planned for ECCV2024 submission.

Royal Bank of Canada May 2023 - September 2023
Data Scientist *Technologies: Python, LightGBM*

- Developed a benchmark for future data analysis on a newly acquired Ontario housing valuation dataset.
- Conducted experiments on training on LightGBM with Optuna tuning to predict Canadian housing prices.
- Surpassed the baseline model by achieving a 2% increase in precision and 1% decrease in MAPE.
- Identified a method that triples the speed of data analysis.

Royal Bank of Canada May 2022 - April 2023
Data Analyst *Technologies used: SAS, Pandas, Teradata*

- Extracted and analyzed large-scale credit card data using SQL queries in SAS.
- Developed comprehensive visualizations and reports on client attrition for the RBC travel credit cards.
- Discovered a pre-pandemic/post-pandemic trend that affects $\sim$ 8 million credit card holders.

PUBLICATION

Model Compression August 2022 - March 2023
Computer Vision Research *Technologies: OpenCV, Pytorch, Git, Paperspace, Scipy*

- Samir Khaki and **Weihan Luo**, "CFDP: Common Frequency Domain Pruning", CVPR 2023. Undergraduate students only.

PROJECTS

Adversarial Attack on AI Text Detectors April 2023-Present
Deep Learning Project — https://github.com/weihan1/Attack *Technologies: OpenAI API, HuggingFace*

- Created an adversarial framework to defeat AI-written essay detectors like GPTZero with above 90% accuracy.

Forecasting Chess Elo On A Time Series December 2021
Data Science Project — https://towardsdatascience.com/forecasting-chess-elo-on-a-time-series-7e448a2d161e

- Devised a custom model to predict chess ratings based on past games.

EDUCATION

University of Toronto 2019-June 2024

Honours Bachelor of Science with PEY Co-op

Relevant courses: Advanced Calculus, Software Design, Deep Learning, Data Structures and Algorithms, Probabilistic Learning.

EXTRACURRICULAR AWARDS

2015 Chess National Runner-up. Top 96th percentile rated player on Lichess.
https://lichess.org/@/bibimbap123/perf/bullet