

Shangar Muhunthan

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Education

University of Toronto

HONORS BACHELOR OF SCIENCE IN STATISTICS (CO-OP)

Toronto, ON

Sept 2019 - Apr 2025
(expected)

- Specialization in **Statistical Machine Learning and Data Science**
- **Courses:** Probability, Statistical inference, Neural Nets and Deep Learning, Regression Analysis

Skills

- **Programming Languages:** Python, C++, SQL, R, C, Bash/Zsh, Rust, Cuda
- **Machine Learning Libraries/Frameworks:** Tensorflow, Pytorch, Numpy, Scikitlearn, Matplotlib, Pandas
- **Software Libraries and Tools:** Eigen, GTest, GLog, Abseil
- **Operating Systems and Development Tools:** Linux, Git, Shell Scripting, Vim, RStudio, Jupyter Notebook
- **Build Tools and Systems:** Bazel, Cargo

Experience

Temerity Analytics

DATA ANALYST

Toronto, ON

Sept. 2021 - Present

- Implemented an **RL agent** to target geographical areas for advertising
- Applied statistical methodologies, including **clustering** and **dimension reduction**, for audience segmentation
- Applied **regression** techniques to forecast sales and marketing data
- Conducted research to enhance a **sentiment analysis** algorithm, resulting in a **12% performance boost**
- Managed script administration, job scheduling, deployments, and general server maintenance on **Linux servers**

Projects

AI Video Upscaler

DEVELOPER

[github] (42 ☆)

- Leveraged **PyTorch** and Pillow to employ a pre-trained neural network for **4x upscaling** of images.
- Devised a method to **address memory constraints on low-capacity GPUs**

Deep Q-Learning Basketball Agent

DEVELOPER

[github]

- Developed a **Deep Q-Learning** agent and environment for optimal decision-making on an NBA court.
- Demonstrated statistical similarity between the agent and high performing players in the NBA

t-SNE

DEVELOPER

- Read original t-SNE paper and implemented algorithm in **C++**
- Optimized original t-SNE algorithm with **quad-tree** and **vantage point tree** data structure (**BH-TSNE**)