Lili Liu

Email : lili.jemma.liu@gmail.com Location: Vancouver, BC, Canada.
Mobile : +1-514-677-9909

Objective: Software Development Engineer (Full-time, onsite or remote).

Skills

-Hands-on experience in Python, C, and Linux shell scripting, coupled with a robust programming background and expertise in developing efficient data processing and model training pipelines.
-Experienced in working with machine learning and deep learning modeling. Proficiency in utilizing cutting-edge platforms and tools such as PyTorch, TensorFlow, OpenCV, scikit-learn, Pandas, and NumPy to achieve impactful outcomes.
-Effective communication, self-motivation, creative thinking, and meticulous attention to detail, enhancing collaboration and delivering exceptional quality work.

Work experience

- **Machine Learning Engineer at Huawei Vancouver Research Center** Vancouver Canada
  Projects: *May. 2021-present*
  - Model Compression and Acceleration:
    In this project, my responsibilities included implementing neural network compression techniques, developing an automated codebase, and achieving successful compression results.
    1. researched and developed advanced Pruning, Sparsity, Quantization, and Knowledge Distillation methods to compress networks.
    2. created a codebase automating the loading process of models, checkpoints, and datasets, achieving compression to a specific level (50% to 90%).
    3. applied the compression tool to advanced autonomous driving models (Lidar, point clouds models) and LLM models, significantly reducing their size without sacrificing performance.
  - Autonomous Driving Simulation:
    In autonomous driving projects, I designed safety-related scenarios for advanced autonomous driving systems and developed a data generation pipeline.
    1. focused on creating detailed scenarios in simulations to enhance safety reasoning.
    2. built a data generation pipeline specifically for graph-based reasoning networks in the CARLA simulation environment. This pipeline facilitated the creation of diverse and realistic data that accurately represented real-world driving conditions. By establishing this pipeline, we ensured a reliable source of data for training and testing the safety mechanisms of self-driving systems.
  - Sign Language Dataset Creation and Analysis:
    I created a specialized multi-modality dataset for sign language translation, exploring the optimal structure to connect AI technology and sign language communication.
    1. developed a Universal Dictionary of Chinese Sign Language for the Huawei SignPal Kit, enabling effective recognition and generation of sign language words.
    2.The project has positive impact on numerous deaf individuals and was showcased at the Huawei Developer Conference 2021.

Education and Research experience

- **Concordia University** Montreal, Canada
  Thesis Master, Computer Science *Sep. 2018 – Dec. 2020*
- **Beijing University of Technology** Beijing, China
  Thesis Master of engineer, Computer Technology. *Sep. 2015 – Jul. 2018.*