YIPENG(CODY) LIU

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EDUCATION

Simon Fraser University Sep. 2021 - May. 2023
Master of Science in Computer Science, Visual Computing (GPA:3.89/4.33) **Burnaby, Canada**

University of Manitoba May. 2017 - May. 2021
Bachelor of Computer Science, Honours **Winnipeg, Canada**

SKILLS

Programming Languages: **Python, Java, C++, SQL, MATLAB, HTML/CSS, Javascript**
Libraries: **Numpy, Pandas, Matplotlib, Scikit-learn, SciPy, PyTorch, Opencv, Junit**
Development & Tools: **AWS, Docker, Spring Boot, MySQL, Git, Unity, Maya**

WORK EXPERIENCE

Co-op Pharmaceutical Analytics Sept. 2022 - Dec. 2022
Data Analytics job (BC Ministry of Health) *Victoria. BC*

- Employed data models to perform an **Uncertainty Analysis** for **Business Impact Analysis (BIAs)** pertaining to the 2018-2020 fiscal year.
- Extracted pertinent drug-related data utilizing **SQL**, demonstrating strong data retrieval capabilities.
- Created and fine-tuned data analytic models using tools such as **Python** and **R**, showcasing data modeling and analysis expertise.
- Effectively visualized and presented analytical results using **Excel** and **Matplotlib**, enhancing data-driven decision-making within the pharmaceutical analytics team.

PROJECT EXPERIENCE

High Performance Hand Pose Estimation Jan. 2022 - April. 2022

- Conducted rigorous testing of four leading **Hand Pose Estimation Neural Networks** using RGB image inputs, thoroughly assessing their performance.
- Demonstrated expertise by converting a **Pytorch** model into an offline-ready format, enabling efficient deployment on the **Huawei Atlas 200DK board**.
- Built pre-processing and post-processing pipelines to read input video and generate output GIF.
- Modified the model to reach the accurate output with **18 FPS** response time.

3D Plant Model Reconstruction Using Deep Learning Sept. 2021 - Dec. 2021

- Evaluated six most popular Point Completion Neural Networks, including **PF-NET** and **PCN**, for the reconstruction of incomplete 3D plant models, and compared their **Chamfer Distance**.
- Generated 3D plant object dataset using **Vlab**, then transferred the object dataset to **Point Cloud** dataset.
- Demonstrated expertise by adapting widely-used Point Completion Neural Networks, training them with our proprietary dataset, and fine-tuning hyperparameters to optimize model performance.

Impact of the COVID-19 of Various Industries in Canada Jan. 2021 - April. 2021

- Developed **Linear Regression model** and **Polynomial Regression model** using the **Sklearn** library to predict and analyze the impact of COVID-19 on Canada's industry-specific GDP.
- Conducted data preprocessing on **Statistics Canada** datasets with **Pandas**, fine-tuning model hyperparameters for optimal accuracy.
- Visualized GDP trends during the COVID-19 period with **Matplotlib** and authored a research paper to comprehensively explain these trends.