PHI LONG LAI

Phone: (+1) 780 695-6610
Email: llai1@ualberta.ca
LinkedIn: long-lai-454877180
Github: https://github.com/lpl-5664
Portfolio: https://phi-long-lai.vercel.app/
Address: 304 - 11015 29A Ave NW, Edmonton, AB T6J 4S8

TECHNICAL SKILLS

Technical skills: Web Development, Mobile Development, Databases, Scrum & Agile, Software Development Life Cycle, Unified Modeling Language (UML), API Design, Version Control, Unit Testing, Machine Learning

Programming Languages: Python, C#, R, HTML, CSS, Matlab, SQL, JavaScript

Frameworks: .NET Frameworks, .NET Core, ASP.NET, React, Django, Django REST, Bootstrap, Tensorflow, Pytorch, ONNX, Scikit-learn, Keras, Pandas, OpenCV

Developer tools: Git, GitHub, Visual Studio, Visual Studio Code (VSCode), Android Studio, MS SQL Server, Azure

Algorithms: K Nearest Neighbor, Support Vector Machine (SVM), Naive Bayesian, Linear Regression, Convolutional Neural Network (CNN), Deep CNN (DCNN), Sequence to Sequence (Seq2Seq), Natural Language Processing (NLP)

WORK EXPERIENCE

Programming Instructor | Ultimate Coders
Edmonton, AB
- Taught **Java**, **C/C++**, and **Python** to students of various age groups.
- Provided guidance and support with coding assignments, ensuring students grasp key programming concepts.
- Fostered an engaging and interactive learning environment, encouraging curiosity and creativity in programming.

Full Stack Machine Learning Developer | Personal Project
Edmonton, AB
- Building a web application using **Django** and **React** for translating languages on VSCode
- Constructing a **Transformer** model for language translation using **Python** and **Tensorflow**
- Training the model, fine-tuning hyperparameters and building an inference model to optimize calculation speed
- Designing a RESTful API with **Django REST** to handle the language translation
- Implementing interactive user interface using **React** and **React Bootstrap** with **Node.js**
- Deploying website on **Azure App Services** following **DevOps** methodologies and version control with **GitHub**

Full Stack Developer | Personal Project
Edmonton, AB
- Developed a personal website using **Python** with **Django** framework on VSCode
- Designed interactive user interface with **CSS** and **HTML** with **Bootstrap** framework
- Created animations for web components using **JavaScript**
- Applied **DevOps** methodology on software deployment and practiced version control with **GitHub**

Computer Engineering Student | Suncor Energy Inc.
Edmonton, AB
- Developed user interactive web applications with **C#**, **CSS**, and **HTML** to be integrated into the enterprise systems for real-time data monitoring and prediction
- Designed, maintained, and optimized data infrastructure for data collection and manipulation with stored procedures using MS **SQL Server** Management Studio
- Automated data prediction based on a **linear regression** model through a .NET console API program
- Optimized operation performance by remodeling a decision-support system using **non-linear programming** reducing calculation speed by 50%
- Analyzed data using **Python** to search for wear patterns and data correlation in wear rate and pipe positions on Jupyter notebook
- Collaborated with senior developers to assure compliance with development and business goals
- Developed technical documentations as a guide for end-users and developers

Computer Vision Developer | Academic Project
Edmonton, AB
- Developed a multiple object tracking system using **DeepSORT** algorithm, integrating **YOLOv4** for object detection and **Kalman filter** for state prediction

- Utilized **TensorFlow** for **CNN** and **OpenCV** for video preprocessing and object tracking pipeline
- Implemented video tracking and analysis, optimizing the performance of the model with high accuracy and robustness in tracking multiple objects across frames

Machine Learning Intern | Sun Asterisk

Hanoi, Vietnam
- Constructed a **RepVGG**+**Attention LSTM** pipeline for an optical character recognition (OCR) problem using **Python** on **Tensorflow** and **Pytorch** frameworks
- Improved model performance with data augmentation and fine-tuning on generated dataset
- Built a demo model of face recognition for edge devices (tested on Jetson Nano)

Machine Learning Developer | Academic Project

Edmonton, AB
- Worked as a team to build **VGG19** model for ASL to alphabet character translation using **Tensorflow** and **Keras**
- Enhanced performance of pre-trained models through hyperparameter tuning
- Performed integrated gradient descent on data images to interpret the model
- Documented a performance report and presented a demo to other teams

Mobile Developer | Academic Project

Edmonton, AB
- Developed a mobile application for borrowing books using **Java** on **Android Studio** with **Firebase**
- Learned about software development life cycle and practiced **Scrum & Agile** methodologies
- Designed software architecture and visualized the system through **UML** diagrams
- Implemented unit testing to ensure the performance and reliability of the program

EDUCATION

BSc with Specialization in Computing Science | University of Alberta

Edmonton, AB