# Zhiyu (Edward) Liang

475-434-8259 edwardlzy0@gmail.com

## Education

**Yale University** **Aug. 2021 – May 2022**
*Master of Science in Computer Science;* ***GPA: 4.0/4.0*** *New Haven, CT*

**University of Toronto** **Sep. 2015 – Dec. 2019**
*Honours Bachelor of Science in Computer Science;* ***GPA: 3.84/4.00*** *Toronto, ON*

## Technical Skills

**Languages**: Python, Hack/PHP, JavaScript, Go, Swift, C/C++, Java, Shell, SQL, MATLAB, Markdown, Objective-C, Kotlin
**Technologies**: MERN, Hive, Presto, REST APIs, GraphQL, Kubernetes, Redis, Kafka, ELK stack, Bootstrap, Git, RegEx
**Machine Learning**: PyTorch, TensorFlow, Keras, NumPy, OpenCV, Fairseq, Tensor2Tensor, Scikit-Learn, Pandas

## Experience

**Meta** **Jul. 2022 –**
*Software Engineer* *Menlo Park, CA*

- Working on the **Product Detail Page** team of Facebook and Instagram Shops.
- Drove 10+ teams collaboration to make **Shops on Facebook website** compliant with EU regulations (DMA & DSA). Technologies used include React, GraphQL, JavaScript and PHP.
- Jointly developed ”preview mode” to PDP rendering that resulted in up to **80% TTRC (Time To Recent Content) improvement** on high variant count products, and **dropped PDP abandonment rate by 5.5%**.
- Implemented efficient checkout page pre-fetching that accounted for **20% faster TTI (Time To Interactive)**.
- Led various **better engineering** and **operational excellence** efforts such as improving the test coverage by 40% and driving weekly SEV reviews.
- Maintained 30+ performance and business metrics logging events and **reduced 5%-10% logger payload size**.

**Qualcomm** **May 2018 – Apr. 2019, Feb. 2020 – Jul. 2021**
*Machine Learning Engineer* *Toronto, ON*

- Developed 2 quantization algorithms to reduce the size of **Transformer models** by **4x** while preserving **97.7%** model accuracy in **machine translations**.
- Proposed and trained **GAN-based image-denoising algorithm** that achieved state-of-the-art performance without requiring pixel-aligned training data.
- Implemented a Python script to translate internal model representations into ONNX format using Regular Expression, which accelerated the processing time **from 2 hours to 5 seconds**.
- Developed a Python **web crawler** that collected more than 550,000 code snippets for training a Large Language Model for programming languages.
- Jointly developed the Quantization-Friendly MobileNet, won the **1st prize in 2018 IEEE Low Power Image Recognition Challenge** and published a **NeurIPS Workshop paper**.

**Vector Institute** **May 2019 – Dec. 2019**
*NLP Research Intern* *Toronto, ON*

- Crawled and preprocessed large-scale high-quality text data of **12 billion word tokens**.
- Implemented the **GPT-2 model** in Tensor2Tensor and training scripts for **distributed training** setup, available for hundreds of researchers and sponsors to use.
- Profiled distributed training performance of GPT-2 on **256 GPUs**, which helped decide the multimillion-dollar purchase of additional training hardware.

## Projects

**Basic Shops PDP** | *Hack/PHP, JavaScript, React, Objective-C, Kotlin*

- Built the Basic Shops Product Detail Page on Facebook and Instagram app and website for EU and UK users that complies with EU regulations (DMA & DSA).
- Safeguarded and monitored modules and data presented to hundreds of millions of visits from the EU every day.

**FaceBlock App** | *Tensorflow, Java, Android Studio* | *2018 Qualcomm Hack Mobile Winner*

- Developed an Android app using Java and TensorFlow to protect people’s privacy in live video streams by detecting, tracking and replacing unwanted faces with a selected emoji in real time on Samsung Galaxy S9.
- **Won 1st place in 2018 Qualcomm Hack Mobile Hackathon** out of 60+ teams and 250+ participants.

**Travel Planner Web App** | *TypeScript, MERN Stack, Google Maps API, Jest, Netlify*

- Developed and deployed a travel planning website that automatically generates a travel itinerary from a selected city and dates. The tourist attractions and restaurants are recommended based on Google Maps ratings.