Daixin Tian

Personal Information

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Education

Bachelor of Applied Science and Engineering, Department of Electrical and Computer Engineering, **University of Toronto**, **September 2020 to June 2025 (expected)**

- **Major**: Computer Engineering
- **Relevant Courses**: Calculus; Advanced Engineering Mathematics; Programming Fundamentals (C & C++); Introduction to Deep Learning; Operating System; Control System; Algorithm& Data Structure.
- **GPA**: 3.84

Skills

Programming Languages: Python, C, C++, Java, MATLAB, ARM, Verilog
Machine Learning: PyTorch, Diffusers, TensorFlow, OpenCV, accelerator
Deployment: Flask, AWS EC2, Route53 **Database**: TiDB
Front-end: Webflow, JetBoot, HTML, css, JavaScript, node.js
Office: Words, Excel, PowerPoint
Editing: Adobe After Effect, Photoshop, Premiere, Edius, Audacity

Work Experiences

Machine Learning Research Engineer, Huawei Noah's Ark Lab, Markham, Ontario, Canada, **May 2023 – May 2024**

- Researched and developed Text-to-Image and Text-to-Video generative models namely **diffusion models and transformers**. Implemented optimization techniques on training and inference learnt from papers from academic conferences (CVPR, AAAI, etc.).
- Contributed to bug fixing and optimization of the training code of a **2.5k-starred** Github repository on Text-to-Image generative model: https://github.com/orgs/PixArt-alpha/discussions/119
- Developed and optimized algorithms that lowers the chance of mistaken triggering of Huawei's phone voice assistant by **80%.**
- Designed and tested a generative model for poster layout generation based on text and image content.

Competitions and Hackathons

Team Lead and Full-stack Engineer, Global Power Rankings Hackathon, Online, **August 2023 - October 2023**. https://devpost.com/software/rift-ranks

- Winner as **6th place** out of 1813 participants.
- Developed a user-friendly platform from scratch for discovering comprehensive and accurate global rankings of professional League of Legends teams.
- Deployed back-end integration using Flask framework with gunicorn and nginx; leveraged AWS EC2 and Route53 for a 24/7 service with secured HTTPS connection.
- Researched and implemented two ranking algorithms - Principal Component Analysis and TrueSkill.
- Utilized Webflow for designing user interface and integrated Jetboot to support core functionalities and enhance user experience.

Team Lead and Full-stack Engineer, TiDB Future App Hackathon 2023, Online, **June 2023 – July 2023**. https://devpost.com/software/project_name-wf9l8d

- Awarded as one of **60 Finalists** out of 1466 participants.
- Developed a webpage for collection of machine learning models, integrated with intelligent search functionality using AI chatbot.
- Deployed REST APIs with Flask framework that handles interactions with endpoints from TiDB, an advanced distributed SQL database.

Technical Experiences

Coding Group Member, ECE297 Software Communication, University of Toronto, Canada, **January 2022 to June 2022**. https://github.com/AlezHibali/ECE297_Mapper_pub

- Design and scope a large GIS application using C++ from scratch.
- Implemented Dijkstra's algorithm and A* algorithm to optimize routing and performance.

AI Financial Reimbursement Researcher, FOCUSLAB, Nanjing University of Posts and Telecommunications, Jiangsu, China, **August 2019 - September 2019**.

- Investigated the market demand for automatic financial reimbursement machine.
- Implemented gradient algorithm in Java to help recognize contents on invoices and calculate money needed to be reimbursed.