

Alan (Jia Lin) Yuan

alan.yuan.jly@gmail.com | [linkedin.com/in/jalnyn](https://www.linkedin.com/in/jalnyn) | github.com/jalnyn

WORK EXPERIENCE

- Amazon** Jun 2023 – Aug 2023
Software Developer - Intern Toronto, Ontario
- Designed and implemented a precompute layer to increase recommendation speed by **99%** from 150ms
 - Created automated data analysis tool to ensure predictions are above **75%** accuracy
- PAIR Lab** Sep 2021 – Present
Researcher Toronto, Ontario
- Exploring the usage of **MPC**, **VLM**, **LLM** in long term planning of low level task through constant re-evaluation of plans resulting in the completion of multi-step tasks instructed by english, improving on state of the art
 - Assisted with **Orbit**, a robotics learning framework built on top of NVIDIA's **Isaacsim** resulting in a publication
 - Designed and built **GPU** parallelized state systems with low overhead allowing a **4x** speedup over the cpu solution
- Amazon** May 2022 – Aug 2022
Software Developer - Intern Vancouver, British Columbia
- Engineered a modular microservice in **Java** to send notifications to customer of cashback on select products
 - Utilize **AWS** webservices such as **Lambda**, **SQS** and **SNS** to ensure scalability of the notification system
- Intel** May 2021 – May 2022
Software Engineer - Intern Toronto, Ontario
- Developed support software to generate 4000+ of completely random test-cases for edge-case testing
 - Optimized support tool's Ram templates to reduce false positives and failing cases by around **70%**
- Centivizer** Apr 2020 - Sep 2020
Software Developer - Part-time Toronto, Ontario
- Designed and wrote backend application using **Node.JS** and **SimplePeer** to connect users via video call

EDUCATION

- University of Toronto** — cGPA
MSc in Applied Computing Sept 2023 - Dec 2024
- University of Toronto** 3.84 cGPA
HBSc Computer Science Specialist, Major in Mathematics Sep. 2018 – May 2023

PUBLICATIONS (* EQUAL CONTRIBUTION)

- M. Skreta*, Z. Zhou*, **J. L. Yuan***, K. Darvish, A. Aspuru-Guzik, A. Garg. Lidless Eye and Silver Tongue: using Vision and Language for Adaptive Task Replanning, *Submitted to (ICLR) 2024 [under review]*
- M. Mittal, C. Yu, Q. Yu, J. Liu, N. Rudin, D. Hoeller, **J. L. Yuan**, R. Singh, Y. Guo, H. Mazhar, A. U. Mandlekar, B. Babich, G. State, M. Hutter, A. Garg. ORBIT: A Unified Simulation Framework for Interactive Robot Learning Environments, *(RA-L) 2023*

PROJECTS

- MultiModal AI Story teller (Co-Founder)** | private repo Jul 2023 – Present
- Implemented **Multimodality** using **LLMs** and **Latent Diffusion Models** to build a interactive story teller.
 - Lead efforts to increase **LLM** efficiency by utilizing SOTA quantization to decrease VRAM usage by 87.5%.
 - Grew project from 0 to 50 daily active users resulting in 2k in profits.
- CaNetDa: Deep Learning for GeoGuesser in Canada** | Link: GitHub Jan 2021 – Apr 2021
- Mined dataset and trained an ensemble of **Computer Vision** models: **ResNet**, **EfficientNet** and **Vision Transformer** resulting in a **47%** improvment over random agent in predicting province of image in Canada
- Machine Learning Course Competition** | Link: GitHub Sep 2020 – Dec 2020
- Achieved the 5th highest score in the unsupervised movie recommendation competition based on Netflix data
- Tron UDP Multiplayer** | Link: GitHub Sep 2019 – Dec 2019
- Created a four player game for local networks using the **UDP** network protocol and C++
 - Utilize **epoll** for both client and server to monitor the socket as well as the timer (server) and stdin (client)
- BF-Interpreter** | Link: GitHub Mar 2018 – Nov 2018
- Built a BF shell that runs all example BF programs found on Wikipedia in C

TECHNICAL SKILLS

Tech: Deep Neural Networks, Large Language Models, Latent Diffusion Models, Python, C++, JavaScript, Java, Rust
Tools: Huggingface, Oobabooga, PyTorch, Git, React, Node.js, MongoDB, SQL, Numpy, GraphQL, Robotics,