KRISTY (LUYAN) ZHANG

Portfolio: https://kristyzhang-luyan.github.io

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Education Experience

Northeastern University   09/2023 - 12/2024
- Master of Science in Computer Science

University of Toronto   01/2019 - 06/2023
- Bachelor of Arts with Honours: Double Major in New Media Studies & Studio Art

Professional Experience

AI Product Manager Lead, **Wondershare Tech.** *(Listed AI company)*   02/2025 - Current

- AI Mate (LLM - based Chatbot)
- Directed the development and launch of Filmora's AI Mate chatbot, which was showcased at **Microsoft's 2025 BUILD** global developer conference **keynote and demonstrated live by Microsoft VP**
- Developed a high-performance **dual-path** system achieving **92% feature identification accuracy**
- Implemented **RAG** retrieval for precise matching of video resources and filters
- Integrated **LangChain with LangGraph** integrated with GPT-4o to constrain knowledge within video editing and software functionality domains
- Strategized and delivered an offline version of AI Mate utilizing **Phi Silica LLM**, enhancing product versatility through **NPU execution** optimization and **LoRA fine-tuning** techniques

- Large-Scale Audio Model (AIGC)
- Led the development of a **Large-Scale Audio Generation Model** for **TTS** in **20+ low-resource languages**, achieving **native-like accents** in **English, Spanish, Japanese, and Korean**
- Applied **VITS**, **HiFi-GAN**, and **language-adaptive pretraining** to improve **multilingual prosody and pronunciation**
- Built a **1.2M+ audio-text dataset** spanning **voice-overs**, **public speeches**, **conversations**, and **regional radio**, across **entertainment**, **education**, **marketing**, and **social media** domains
- Enabled **tag-to-music generation** for **video editing** by training on **300K+ labeled tracks** from **film scores**, **ambient sounds**, **games**, and **user-contributed music**

Co-Founder & Marketing Director, XT Media   04/2021 - 01/2023
- Pioneered micro-influencer matrix strategy that reduced user acquisition **costs by 30% and reached 5M+ views**
- Established partnerships with Bobbi Brown and Adidas, driving **$200K** annual revenue through influencer campaigns
- Orchestrated **80+** product campaigns across **3,000** influencers, ensuring seamless execution and brand alignment

Brand Marketing Specialist, Lamborghini Toronto   10/2022 - 11/2022
- Developed Urus Performante campaign achieving **30%** increase in search visibility and **25%** boost in engagement
- Created data-driven customer personas using **SQL**, driving **12%** customer growth and **10%** business growth

Visual Creative Designer, ByteDance   05/2020 - 06/2020
- Created engaging **TikTok ad** campaigns aligned with brand goals, delivering compelling visual narratives that increased user engagement

Research Experience

EvoLoRA: Synergizing Low-Rank Adaptation and Evolutionary Prompts for Resource-Efficient ASR Error Correction
- Abstract - **Automatic Speech Recognition (ASR)** systems often produce errors in noisy environments. Proposed the **EvoLoRA framework** integrating **low-rank adaptation (LoRA)** with **evolutionary prompt optimization** for efficient ASR error correction. Reduced **Qwen2.5-7B's** Word Error Rate from **1503.20%** to **6.25%** and

TinyLlama-1.1B's to **7.47%**, approaching the ASR baseline (5.31%). **LoRA** reduced trainable parameters by **98%**, with TinyLlama requiring only **2.3 GPU hours** of training, validating the '**lightweight model + efficient optimization**' approach for **resource-constrained scenarios** and **edge devices**.

Ensemble learning of text detection for large language models based on integrated language features

- Abstract - The rapid development of **large language models** has greatly facilitated daily life and work, but it has also posed challenges for individuals and society. Therefore, there is an urgent need for tools capable of **detecting text generated by large language models**. To balance **detection performance** and **generalization ability**, this paper proposes a text detection method based on **ensemble learning** of **linguistic features**, called **EBF Detection**. This method integrates **fine-tuned pretrained language models** with advanced **natural language statistical features** and employs a **decision mechanism** to detect text generated by large language models. **Experimental results** demonstrate that **EBF Detection** achieved an average **detection accuracy** of **98.72%** on **in-domain data** and **96.79%** on **out-of-domain data**.

Projects Experiences

VanEats (Food Recommendation App for Desktop & Mobile)   09/2024 - 12/2024
Full Stack Developer
- Developed a cross-platform food recommendation application using **React.js** that integrates with **Yelp's Fusion API** to deliver real-time restaurant data, reviews, and personalized recommendations
- Implemented responsive **UI/UX design** with advanced filtering capabilities (location-based suggestions, cuisine filters, price ranges) ensuring seamless experience across **both desktop and mobile platforms**
- Improved application performance by implementing **API request batching**, strategic caching with **localStorage**, **debouncing user input** to enhance responsiveness and user experience

Tetris AI (Tetris Game with AI Challenge)   01/2024 - 06/2024
Full Stack Developer
- Built a responsive Tetris game using **React**, **Next.js**, and **Tailwind CSS**, playable across devices: tetris.zackhu.com
- Optimized AI competition mode by migrating backend from **Firebase** to **AWS EC2**, reducing response time from **5s to milliseconds**
- Secured the server with **Let's Encrypt** and created **custom API endpoints** for seamless front-end–AI communication

Susu & Snow (AR Game Design Project)   09/2022 - 11/2022
- Developed an AR game and picture book to teach children about **privacy**, using **Unity**, **Blender**, and **InDesign**.
- Through **user research**, found that children often used **iPads** but struggled to scan book-based AR markers; subsequently **adapted the app for mobile phones** to improve accessibility.
- **Executed end-to-end design**, from planning and prototyping to testing and iteration, with regular **feedback-driven improvements**.

Technical Skills

- Programming Languages: Python, Java, C++, C#, JavaScript, HTML, CSS, R, SQL
- Frameworks and Libraries: React, Next.js, Node.js, Tailwind CSS, Spark
- Tools and Platforms: PyTorch, Transformer, React, Node.js, Express, Unity, p5.js

Personal Skills

- Languages: Mandarin Chinese (Native), English (Professional Proficiency)
- Product Management: LLM Integration, Prompt Engineering, RAG Implementation (LangChain), Multimodal AI Design, TTS Optimization (LoRA), Data-Driven Decision Making (GA, SQL), Cross-functional Collaboration
- UI/UX: Wireframing & Prototyping (Figma, Sketch, Adobe XD, Edraw, Mermaid)