






Yuanlong Zhou

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EDUCATION

Texas A&M University	Master of Computer Science	GPA: 4.0 / 4.0	Aug 2023 – Dec 2024
Sichuan University	Bachelor of Computer Science (Minor: Finance)	GPA: 3.8 / 4.0	Sep 2019 – July 2023

SKILL


- **Programming:** C/C++, Python, Java, C#, JavaScript, TypeScript, Go, Html, CSS, OpenGL, SQL, Shell, PHP, R, CMake, Ruby, Swift
- **Development:** Git, Docker, AWS, Azure, React, Conda, MySQL, NoSQL, Oracle, Apache, Spring MVC, Node.js, Flask, Django
- **Award:** Scholarship, Innovation & Entrepreneurship, Math Modelling, LeetCode, Hackathon, Fintech, Game Jam
- **Leadership:** Co-Founder of Startup, President of Game R&D Club, Student Union, 4 Copyrights & 2 Patents

EXPERIENCE

Amazon | Applied Scientist Engineer - Internship  May 2024 – Aug 2024


Research (Vision, Multi-modal LLM, AIGC), Engineering (AWS, DevOps, MySQL)

- Streamlined SOTA Computer Vision models in Object Detection/Segment/Tracking (Ground-DINO, SAM2) with Generative AI models (diffusion, dream fusion) to automate commercial image generation with 20% coverage and 95% cost reduction.
- Designed and implemented dynamic layout generation with color/style transfer algorithm, elevating image quality by 70%. Fine-tuned LLMs to generate product descriptions, knowledge transformation, grammatical/sentiment analysis.
- Engineered AWS tools (S3, Cloud9, EC2, IAM) with CodePipeline to automate code commits, builds and production releases.
- Constructed a Target Planner to recommend personalized product widgets for customers using Collaborative Filtering. Retrieved and processed large-scale market data (>10 TB) in MySQL and distributed cloud computing.

Google Summer of Code | Software Development Engineer  Mar 2024 – Aug 2024

Full Stack (TypeScript, Yarn, Meteor, Next.js, Node.js, OAuth2)

- Developed AI Programmer on LLM (Mistral, Llama), delivered auto code generation/refinement capability for 12 million+ users.
- Conducted prompt engineering (CoT) to design LLM agents that can reason and act in logic chain effectively. Strengthened prompts to ensure security and behavioral compliance, can sustain 90%+ improper injections.
- Managed OAuth2/token authentication for users to seamlessly share code pieces into GitHub as PR or Gist post via RESTful APIs.

Texas A&M University – Aggie Graphics Group | Graduate Research Assistant  Sep 2023 – Present

Research (3D Reconstruction, Graphics, WebGL, PyTorch, CUDA)

- Deployed GPU acceleration (CUDA kit, Conda) for SLAM 3D reconstruction from 2D video to 3D space (Nerf, Gaussian Splatting).
- Processed 3D data in MeshLab, Unity3D for mesh simplification and plane segment, refined 2D tracking using 3D spatial supervision, improving accuracy by 38%. Optimized quaternion skinning for 3D face reconstruction and shape blending.

Dots Rhythm Technology | Full Stack Engineer - Internship Dec 2022 – May 2023

Full Stack (Java, JavaScript, Web3, React, Redis, MongoDB, Apache)


- Constructed Spring MVC components using FaaS for e-commerce scenario, setup GitHub CI/CD for automatic test and deployment, orchestrated C/S sockets and async communication in Postman, Apache, Kafka with nice UI/UX design in React.
- Containerized microservices in Docker Compose and Kubernetes, optimizing resource utilization by 46% to enhance scalability.

Oak Star Technology | Game Developer  Apr 2021 – Dec 2022

Game Engine (XR, Unity3D, Unreal, C#, OpenGL, Shader)

- Developed immersive VR/AR games using Unity3D, Unreal, OpenGL pipeline with AI reinforcement learning and shader compilation.
- Architected toolchains in convex optimization, animation, physics simulation (particle/cloth), error rate decreased by 30%.
- Collaborated in Agile/SCRUM via Git, SCM, launched close-loop products on Steam, financed \$10,000+ by Sony, NetEase, Tencent.

PROJECT

Multi-modal Intelligent Album | Dream Lab: Human AI Interaction  Dec 2023 – May 2024

- Enabled parallel image search, retrieval, and filtering in album via multi-modal interactions (text, voice, gesture) with high throughput.
- Docked Azure AI Studio with LLMs, embedding texts and images into vectors to compare similarity, accelerating queries by 30%.

Financial Risk Management System | Nanyang Technological University – Business AI Lab  July 2022 – June 2023

- Ensembled machine learning (SVM, LSTM, Random Forest, Transformer) with finance models for quantitative analysis of CSI 300.
- Executed feature engineering, parameter tuning, model interpretation (PDP-ICE, Confusion Matrix, SHAP) to foster generalization.
- Deployed data analytics pipeline in Spark, Sklearn, Pytorch, Tensorflow. Built full-stack webpages for visualized data interaction.