

Kunyi Yu

Riverside, CA | 951-224-7045 | kyu135@ucr.edu | linkedin.com/in/kunyi-yu | rock3yu.com | github.com/Rock3Yu

EDUCATION

University of California, Riverside (UCR)	GPA 3.88 M.S. in Computer Science	Jun 2026
Courses: Algorithms, Machine Learning, Robot Navigation, Large Language Models		
Southern University of Science and Technology (SUSTech)	B.E. in Computer Science	Jun 2024

EXPERIENCE

Graduate Research Assistant UCR TASL Lab	Jul 2025 – Jun 2026
- Developed a vehicle-drone collaborative simulation framework using CARLA, SUMO, AirSim, and ROS 2, and extended a 7B vision-language-action model for aerial Vision-and-Language Navigation (VLN) - Built an automated data pipeline that generated the SAR-Drone-VLN-3K dataset with 3,000 search-and-return trajectories and 66K image-action samples - Fine-tuned the navigation policy using LoRA (PEFT) in PyTorch on 8×RTX 6000 Ada GPUs, reducing validation loss by 4× and improving next-action prediction accuracy from 14% to 38%	
Undergraduate Research Assistant SUSTech GameAI Lab	Sep 2022 – Jun 2024
- Built a configurable multi-agent pursuit-evasion simulation platform based on OpenAI Multi-Agent Particle Environment (MPE), supporting cooperative reinforcement learning with customizable environments - Implemented and trained multi-agent reinforcement learning (MARL) algorithms, including MADDPG, QMIX, and IQL, using Python and PyTorch across 25+ experiments and 50,000 training episodes, identifying a GRU-based architecture as the best accuracy-efficiency trade-off and achieving an 80%+ capture success rate	
Software Engineer, Intern Mushroom Wealth Technology	Sep 2023 – Mar 2024
- Built a news center subsystem with Vue.js and REST APIs, supporting 500+ users across 2 securities firms - Integrated 37 REST APIs and 9 lazy-loaded routes, reducing average page-load latency from 3.7s to 0.5s - Extended a configuration-driven permission framework with feature flags for client-specific workflows, eliminating customer-specific code branches and improving maintainability - Migrated content from single-select to multi-select across authoring, review, and publishing workflows with backward compatibility; achieved 95% test coverage and contributed to CI/CD	
Computer Vision Algorithm Engineer, Intern CELinkout Info Technology	Jan 2021 – Feb 2021
- Fine-tuned YOLOv5 object detection models to identify surface defects on metal components, achieving 0.87 mAP@0.5 across 6 defect classes on a 3K-image dataset - Developed a detection and classification pipeline for maritime vessels in satellite imagery, reaching 98%+ classification accuracy	

PROJECTS

Scanning Tunneling Microscope (STM) Image Analysis	Computer Vision
- Built an STM image dataset of ancient bronze-mirror clay molds, developing Python-based pipelines for image preprocessing, annotation, and data preparation - Developed an end-to-end computer vision pipeline using SAM and VGG-based models for particle segmentation, classification, and quantitative analysis, supporting archaeological research at SUSTech	

SKILLS

ML / AI	PyTorch, TensorFlow, Transformers/HuggingFace, vLLM, CUDA, Scikit-Learn, LangChain, ROS 2
Languages	Java, Python, Go (Golang), Swift, C/C++, JavaScript, TypeScript, HTML/CSS
Infra & Tools	Kubernetes, Docker, Google Cloud (GKE, Cloud SQL), Git, Linux
Full-Stack	Spring Boot, React.js, Vue.js, Gin, SwiftUI, Kafka, Redis, PostgreSQL, MySQL, GraphQL, RESTful APIs