RUOHAN WANG

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EDUCATION

Tongji University, China   *Sept. 2020 – Jun. 2025 (Expected)*
Bachelor of Software Engineering   GPA: 91.37/100 (WES: 3.95/4.0)

University of California, Berkeley   *Jan. 2023 – Aug. 2023*
Visiting Student, Electrical Engineering and Computer Sciences   GPA: 4.0/4.0

PUBLICATIONS

[1] Navigating the Digital World as Humans Do: Universal Visual Grounding for GUI Agents
   Gou B., **Wang R.**, Zheng B., Xie Y., Chang C., Shu Y., Sun H., Su Y.   ICLR 2025 Oral (1.8%)

RESEARCH EXPERIENCE

Research Intern – Ohio State University   *Apr. 2024 – Dec. 2024*
Project: Universal Visual Grounding for GUI Agents ⭘   *Supervisor: Prof. Yu Su*

- Developed **UGround**, a universal pixel-level visual grounding model to enhance GUI agents.
- Curated a dataset of **9M** element examples from **773K** real-world website screenshots by designing an efficient synthetic data pipeline, combining web crawling and large language model (LLM) annotation.
- Led model evaluations across multiple benchmarks (web, mobile, OS), achieving **state-of-the-art** results with up to **36%** improvement in grounding accuracy over previous models.

Undergraduate Researcher – University of California, Berkeley   *Feb. 2023 – May 2023*
Project: AIrish — When AI Meets Irish Drama   *Supervisor: Prof. Catherine Flynn*

- Created a corpus of **400+** Irish drama scripts and conducted structural analysis (e.g., acts, scenes, speakers), addressing gaps in large-scale annotated datasets for Irish drama research.
- Developed a **GPT-3.5**-based solution for processing drama scripts, achieving **84%** accuracy in format standardization and OCR error correction, while reducing processing time by **90%**.
- Trained a **RoBERTa** model to predict structural elements with **65%** accuracy, automating the analysis of complex drama text formats.

WORK EXPERIENCE

Machine Learning Engineer Intern – ByteDance   *Oct. 2023 – Feb. 2024*

- Independently fine-tuned LLaVA-based **multimodal large language models** (7B & 13B) using **LoRA**, boosting precision in detecting *off-platform traffic diversion violations* from **62.3%** to **90.2%**.
- Applied **Chain-of-Thought (CoT)** reasoning and multi-task strategies to significantly improve model reasoning capabilities and detection accuracy.
- Optimized the detection of *livestream interaction violations* using a self-supervised method for example selection and sequencing, improving the F1-Score from **50.6%** to **55.8%**.
- Developed an **in-context learning** pipeline for real-time risk diagnosis in livestream monitoring, reducing manual review workload by **40%**.

SELECTED PROJECTS

Amazon Movies Data Warehouse

- Built a distributed data warehouse using **Hadoop**, **Hive**, **Spark**, and **MySQL** to process and analyze large-scale movie data from over **130K** Amazon pages.
- Utilized **Pandas** and **FuzzyWuzzy** to clean and merge data using similarity calculations, improving data integrity for user queries.
- Extracted and processed data using **Scrapy**, **Selenium**, and **BeautifulSoup**, enabling efficient querying based on movie titles, actors, and release dates.

Life Buddy — AI Lifestyle Assistant   *2nd Winner @Baidu AGI HACKATHON*

- Developed an AI assistant for personalized restaurant and travel recommendations using **LLMs**.
- Implemented an intent recognition system and conversation manager, leveraging LLMs to handle user queries and provide contextually accurate responses.
- Integrated **function calling**, SQL queries, and **vector search algorithms**, enabling real-time and AI-driven recommendations based on users' preferences.

SCHOLARSHIPS AND AWARDS

- No. 352 (Top 1%), Alibaba Global Mathematics Competition *Jun. 2024*
- Berkeley Global Access Scholarship ($< 1\%$), Berkeley Extension *Nov. 2022*
- Scholarship for Outstanding Students (Top 10%), Tongji University *Nov. 2022, Oct. 2021*
- Second Prize, China National High School Mathematics Competition *Sept. 2019*
- Honor Roll (Top 5%), American Mathematics Competition 12 *Feb. 2018*

EXTRACURRICULAR ACTIVITIES

Women in STEM Advocate & Mentor

- Produced educational content on study methods and academic experiences, garnering **1M+** views and **50K+** likes/bookmarks across social media.
- Established and led a mentorship program for female students, personally mentored **20** students on technical challenges, research opportunities, and career development.

Hip-Hop Song Writer & Performer

- Achieved **4th place** in Tongji University Campus Singer Competition and **Top 8** in 8 Mile College Rap Competition, Shanghai District.
- Leader of the Starry Sky Performance Club, successfully organizing and performing in **20+** shows.

Intellectual Sports Competitor

- Competed on **The Brain Season 12**, China's premier intellectual competition show (top **0.1%** out of **100,000** candidates), demonstrating exceptional logical reasoning and computation abilities.

SKILLS

Languages	Python, Java, C/C++, Go, JavaScript, SQL, LaTeX, HTML/CSS
Libraries	NumPy, Pandas, PyTorch, Transformers, SciPy, Scikit-learn, NLTK, Matplotlib
Tools	Shell, Docker, Git/GitHub, Hugging Face, LangChain, Figma, Visual Studio Code