

Jingwen Gu

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I am passionate about reinforcement learning, robotics, and natural language processing, and I aim to help develop the next generation of RL algorithms to further the horizon of intelligence.

EDUCATION

Cornell University | Computer Science + Math + Architecture

Expected Graduation: May 2026

- Current GPA: 4.066/4.0
- Dean's List: FA21, SP22, FA22, SP23, FA23, SP24, FA24
- Related Coursework: CS6789-Foundations of RL (**A+**); CS4756-Robot Learning (**A+**); CS4780-Intro to ML (**A+**), and many more.

PUBLICATIONS

- Jin Peng Zhou, Katie Z Luo, **Jingwen Gu**, Jason Yuan, Kilian Q. Weinberger, Wen Sun. Orchestrating LLMs with Different Personalizations. arXiv preprint (arXiv:2407.04181).
- **Jingwen Gu**, Timur Dogan. Virtual Horizon Method: Fast Shading Calculations for UBEM using Lidar Data Rasterization. Under review.

EXPERIENCE

Chief Engineer & Co-founder | Dereka AI | Seattle, WA

June 2024 - Present

- Implemented quantization + pruning + knowledge distillations for LM compression.
- Able to compress model file size and runtime memory footprint 10 times while retaining performance and inference latency.
- Building an MVP to create a edge-device chatbot distilled from 7B models that acts as a dungeon master.

Research Associate | Cornell Computing and Information Science | Ithaca, NY

January 2024 - Present

- Undertook Reinforcement Learning research under Professor Wen Sun.
- Finetuned and aligned multi-objective 7B language models using PPO.
- Analyzed the performance difference between different Multi-objective Reinforcement Learning (MORL) methods.

Research Associate | Cornell Environmental Systems Lab | Ithaca, NY

August 2023 - Present

- Undertook Computer Graphics research under Professor Timur Dogan.
- Developed fast LiDAR-based raytracing methods for urban topographies.
- Built application using C#; interfaced with Vulkan and OpenGL.

LCA Modeller | Cornell University Sustainability Design (CUSD) | Ithaca, NY

February 2023 – May 2024

- Quantified and optimized the carbon footprint of the Bike Walk Tompkins program using mathematical modelling.
- Modelled the carbon footprint of the Ithaca Curbside Compost program and Distributed Energy Systems program using Grasshopper.
- Met with stakeholders and interviewed non-profit organizations.

Computer-Aided Architectural Design Intern | Archi-Union Architects | Shanghai, China

May 2023 – July 2023

- Mentored by lead architects Philip F. Yuan and Weizhe Gao.
- Produced Grasshopper-based parametric design scripts for sun-shading materials.
- Contributed design schemes of Sichuan Digital Rural Achievements Exhibition Center and the SUSAS Gallery.
- Produced renderings and participated in the design development of the CSCEC Headquarters Office.

HONORS

Second Place | Barbara G. Laurie Student Design Competition

October 2022

Outstanding Winner | International Mathematical Modelling Challenge (IMMC), Greater China Region

March 2020

Finalist | Mathematical Contest in Modelling (MCM/ICM)

February 2020

SKILLS

Programming Languages: Python (Proficient) | Java (Proficient) | C# (Proficient) | C/C++ (Intermediate)

Frameworks/Tools: PyTorch | NumPy | Pandas | Transformers | OpenGL | Vulkan | LaTeX

Languages: English (fluent) | Mandarin (native)