Chih-Hsuan (Bella) Yang

Agentic AI Research and Applied Machine Learning

bellayang@anl.gov | chihhsuan-yang.github.io
GitHub | Hugging Face | Google Scholar | AgentsSci | LinkedIn

Argonne postdoctoral researcher in LLM agents, multi-agent systems, and agentic evaluation, with hands-on preference-model training, DPO/PPO, and AI for Science experience.

Technical Skills

Agents: evaluation harnesses, protocol orchestration, trace diagnostics, memory ablations.

Post-training: preference/reward modeling, RLHF, DPO, PPO, scientist feedback.

Implementation: Python, PyTorch, scikit-learn, NumPy/pandas, Hugging Face, Git.

Research and Industry Experience

Postdoctoral Researcher, Argonne National Laboratory — Jul 2025 - Present

- Build reproducible agent evaluation harnesses with matched protocol runs, structured traces, and token/call accounting.
- Analyze reviewer-to-solver critique uptake, answer repair, and task-conditioned memory utility through controlled comparisons.
- Evaluate cost-aware protocol routing with supervised baselines, held-out tests, confidence calibration, and quality-cost metrics.
- Release research code and evaluation data; participate in AuroraGPT's Post-Training Working Group and mentor four students.

Visiting Scientist, Corteva Agriscience — Sep 2024 - Jan 2025

- Trained preference models from scratch using experimental outcomes to ground rewards; incorporated scientist preferences when judgments were uncertain.
- Adapted multiple language models with Direct Preference Optimization (DPO) and Proximal Policy Optimization (PPO).

AI Resident, X, Google LLC — Sep - Dec 2023

- Developed stakeholder-based multi-agent LLM frameworks; studied information flow, coordination, communication, and bidding.

AI Graduate Researcher, Iowa State University — Jan 2020 - Jun 2025

- Co-led BioTrove; researched molecular language models and multi-fidelity materials design.

Selected Publications

Precise but Uncoupled — 2026
First author. NeurIPS Main Track, accepted.

Cost-Aware Protocol Routing — 2026
First author. Findings of EMNLP, published.

BioTrove — 2024
First author. NeurIPS Datasets and Benchmarks, Spotlight.

Education

Ph.D., Mechanical Engineering, Iowa State University — 2025
Co-major in Computer Engineering; minor in Applied Mathematics.

M.S., Computer Science, Iowa State University — 2025

B.S., Bioenvironmental Systems Engineering, National Taiwan University — 2019