Lawrence Jang

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EDUCATION

Carnegie Mellon University

M.S. Machine Learning | Pittsburgh, PA | January 2024 – December 2024

B.S. Statistics and Machine Learning | Pittsburgh, PA | August 2019 – December 2023

- Relevant Coursework**:** Machine Learning (PhD), Advanced ML Theory (PhD), Advanced Deep Learning (PhD), Convex Optimization (PhD), Probabilistic Graphical Models (PhD), Multimodal Machine Learning (PhD), Distributed Machine Learning (Graduate), Deep Reinforcement Learning, Nonparametric Modeling, Modern Regression, Bayesian Modeling, Stochastic Processes, Algorithms and Data Structures
- Honors**:** Statistics Department Undergraduate TA of the Year, Dean's List High Honors (Spring '21, Spring '22, Fall '22, Spring '23)
- Activities**:** Carnegie Mellon Sports Analytics Club, Club Basketball Head Coach, Founder and President of CMU Korean-American Scientists and Engineers Association Chapter, MSML Admissions Committee

RESEARCH EXPERIENCE

Machine Learning Research Assistant

Carnegie Mellon University | Pittsburgh, PA| May 2023 – Present

- VisualWebArena: Evaluating Multimodal Agents on Realistic Web Tasks. Supervised by Ruslan Salakhutdinov and Daniel Fried. https://arxiv.org/abs/2401.13649. ICLR '24 LLM Agents Workshop. ACL '24.
- ICAL: Learning to Abstract for In-Context Agents. RAG Framework for LLM Agents in Embodied and Web Agent Settings; performs SOTA on VisualWebArena. Supervised by Katerina Fragkiadaki. CVPR '24 Embodied AI Workshop. In Proceedings of NeurIPS '24.
- Multimodal Mixture of Experts. Creating a mixture of experts ensemble by partitioning data through multimodal interactions. Supervised by Ruslan Salakhutdinov. In Proceedings of EMNLP '24.
- Investigating the interpretation of ANNs in Brain FMRI data through dissection networks. Supervised by Katerina Fragkiadaki.
- Professional Job Agent: Large-Scale Automation of Professional Jobs with Agents. Supervised by Graham Neubig and Daniel Fried.
- BlitzFlag: Modeling Pre-Snap Defender Blitz Probabilities. Supervised by Ron Yurko.
- Predicted play-by-play outcomes on Division 3 Softball data with random forest and logistic regression for Carnegie Mellon's collegiate softball team. Advised by Ron Yurko.
- Performed topical modeling on children's literature to analyze bias within novels across different intended gender audiences, Advised by David Brown and Rebekah Fitzsimmons.

WORK EXPERIENCE

Research Intern

Microsoft | Redmond, WA | May 2024 – August 2024

- Researching and Benchmarking LLM Agents on the CoPilot team.

Teaching Assistant

CMU Statistics and Machine Learning Departments | Pittsburgh, PA | August 2022 – Present

- Courses Assisted: 10-703 Deep Reinforcement Learning (Fall '22, Spring '23, Fall '23), 10-708 Probabilistic Graphical Models (Fall '23, Spring '24), 36-402 Advanced Data Analysis (Spring '23, Spring '24), 36-401 Modern Regression (Fall '23)
- Designed exams and homework assignments, taught recitations, and maintained course websites.

Research and Development Intern

Chicago Cubs | Chicago, IL | May 2022 – August 2022

- Modeled multivariate joint batted ball distributions with copula models to automate a synthetic data generation process.

Data Science Intern

MLB | New York City, NY | June 2021 – October 2021

- Conducted data analysis on spin-rate trends in investigation of foreign substance usage.
- Created new high-sensor camera datasets and blog writeups regarding new MLB data innovations.

Data Analytics Intern

FormFree | Athens, GA | May 2020 – June 2021

- Identified and manually labeled raw data logs of financial transactions to improve NLP model.
- Created and visualized company financial datasets.