Jinwoo Baik

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EDUCATION

University of California, Los Angeles Aug 2024
Master of Engineering

University of California, Los Angeles Jun 2023
B.S. Computer Science | B.A. Physics

EXPERIENCE

Undergraduate Researcher, UCLA Artificial General Intelligence Lab May 2022 - Jan 2024

- Processed datasets and ran experiments to investigate the effectiveness of a novel ML model that captures continuous interactions among multi-agent systems using graph neural networks

Software Development Engineer Intern, Amazon Jun 2022 - Sep 2022

- Developed diagnostic software to display internal states of Amazon Alexa devices for debugging
- Monitored the status of the internal audio pipelines of Alexa devices by detecting audio corruption and audio frame drops

Education Statistics Intern, American Institutes for Research Jul 2021 - Sep 2021

- Analyzed results from the National Assessment of Educational Progress (NAEP) to track trends about academic performance across various demographic groups
- Implemented the XES standard in R for internal use

Undergraduate Researcher, Elegant Mind Collaboration @ UCLA May 2020 - Sep 2021

- Coordinated a student group and developed experiments to search evidence of the new concept of Neural Holography Tomography

Research Intern, MIT Research Laboratory of Electronics Jun 2018 - Aug 2018

- Developed a program to generate phoneme and acoustic cue labels to augment speech data for research in automated speech recognition

PUBLICATIONS

1. Huang, Z., Hwang, J., Zhang, J., **Baik, J**., Zhang, W., Wodarz, D., ... & Wang, W. (2024). Causal Graph ODE: Continuous Treatment Effect Modeling in Multi-agent Dynamical Systems. In *Proceedings of the ACM on Web Conference 2024* (pp. 4607-4617). https://doi.org/10.48550/arXiv.2403.00178

2. (Preprint) Alfifa U., ..., **Baik J.,** ... et al.Visual Perception of 3D Space and Shape in Time - Part 1: 2D Space Perception by 2D Linear Translation. *bioRxiv*, 2022-03. https://doi.org/10.1101/2022.03.01.482161

3. Huilgol, S., **Baik, J.**, & Shattuck-Hufnagel, S. (2019). A framework for labeling speech with acoustic cues to linguistic distinctive features. *The Journal of the Acoustical Society of America*, *146*(2), EL184-EL190. https://doi.org/10.1121/1.5121717

PROJECTS

Music Language Model github.com/jbaik1/Music-LM

- Trained a GPT model from music using Miditok, which uses BPE tokenization
- Generated music samples with logical chord progressions and rhythms

N-Body Navigation github.com/jbaik1/n-body-navigation

- Created an RL agent to navigate complex n-body environments

AI Enhanced DSAR Solution, Capstone Project for UCLA MEng Foxit Software

- Developed a web application for efficiently processing Data Subject Access Requests by automating SQL query generation with large language models
- Accurately retrieves unstructured user data and delivers human-like responses while complying with relevant data privacy laws

Evaluating Capabilities of LLMs in Playing Wordle github.com/jbaik1/CS-263-Wordle

- Final project for *CS 263: Natural Language Processing*
- Tested effectiveness of few-shot learning with extensive prompt engineering with automated feedback
- Designed automatic evaluation metrics to assess the ability of models to learn and adapt from previous guesses

AWARDS

UCLA Master of Engineering Fellowship 2023