Chun-Wei Chiang

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Summary

Results-driven Ph.D. student in Computer Science specializing in human-AI interaction and applied machine learning. Proactive problem-solver with a strong track record of 10+ peer-reviewed research publications and a deep passion for exploring the intersection of technology and human behavior.

Education

Ph.D. in Computer Science, Purdue University 2020 - May 2024
Selected Coursework: Natural Language Processing, Human-AI Interaction.

M.S. in Computer Science, West Virginia University 2016 - 2018
Selected Coursework: Computer Vision, Deep Learning, Pattern Recognition.

Skills

Programming	Python, Java, R, JavaScript, HTML, Vue.js, Django
Machine Learning	Pytorch, TensorFlow, Sklearn

Research Experience

Applied Science Intern, Twitch June 2023 - Present
- Crafted and implemented an innovative sequential-based collaborative filtering algorithm to optimize item recommendations for Twitch users, resulting in a notable 15% increase in precision.
- Performed in-depth competitive analysis, evaluating various training data sets and recommendation practices, facilitating data-driven decision-making and optimization of recommendation algorithm.

Research Intern, Honda Research Institute January 2023 - May 2023
- Synthesized a wide range of research studies to better understand how drivers feel when interacting with autonomous vehicles and what factors contribute to those emotions.
- Design and plan an experiment to investigate how to improve driver's collaboration with autonomous vehicles and other drivers to achieve optimal driving safety and performance.

Research Assistant, Purdue University January 2020 - Present
- Designed and executed large-scale human-subject empirical studies to understand the difference in human interaction and perception of the AI model between groups of users and individual users from the aspects of performance and fairness.
- Conduct experiments to explore the effect of AI literacy and model transparency on improving laypeople's appropriate use and understanding of AI assistant tools understanding of ML and appropriate usage of the machine learning model.
- Developed a web application implemented with **Vue.js** and **Django** and deployed it on AWS elastic beanstalk to collect data for the experiment.
- Designed a machine learning based content searching tool, which allows users to input a sentence to find the most relevant scientific paper, using triplet model and advanced natural language models, such as Sentence-Bert and T5.

NLP Research Intern, Brain Technologies June 2022 - August 2022
- Created recommendation systems for products and flight tickets based on users' YouTube watch history, as well as for food and restaurants based on users' previous orders.
- Developed a dynamic knowledge base for machine learning models, integrating a search engine and a pre-trained language model, such as GPT-3, to enable the model to answer the question based on the latest information from the internet.

Research Assistant, West Virginia University January 2017 - August 2019

- Modeled the required working time based on the task content and metadata by using a gradient-boosted decision tree, which can predict the hourly wages with around 70% accuracy.
- Built an online peer supportive tool to assist crowd workers in improving their professional skills, resulting in a 31.6% work efficiency increase.

Professional Experience

Co-founder, Covoir January 2019 - August 2019

- Proposed and developed a decentralized Oracle service that provides reliable off-chain data to smart contracts on blockchains.
- Successfully raising the company's first seed funding, setting the stage for its initial operational phase.

Software Engineer Intern, Cateno February 2018 - December 2018

- Developed an Initial Coin Offer (ICO) Governance application on Ethereum using web3.py to connect the blockchain network to the local server and allow users to monitor the ICO on the blockchain network through the server.

Software Engineer, Mitake Information November 2014 - June 2015

- Developed and maintained 8 stock exchange Android applications for stockbrokers by using Android SDK (with 300,000 times+ downloads).
- Collaborated with the project management team and sales team to construct new features.

Teaching Assistant Experience

CS 251 - Data Structures And Algorithms	Spring 2020, Spring 2022
CS 242 - Introduction to Data Science	Fall 2021
CS 180 - Problem Solving and Object-Oriented Programming	Fall 2020, Spring 2021

Honor and Certification

Gary Marsden Travel Awards	2023
Google Certificate: Foundations of Project Management	2022
Best Poster Honorable Mention, The World Wide Web Conference (WWW'19)	2019
Travel Grant ($1,700 USD), HCOMP	2018

Publications

Co-authored 10+ peer-reviewed publications, including CSCW, IUI, and WWW. [Google Scholar]

Chiang, Chun-Wei, Zhuoran Lu, et al. (2023). "Are Two Heads Better Than One in AI-Assisted Decision Making? Comparing the Behavior and Performance of Groups and Individuals in Human-AI Collaborative Recidivism Risk Assessment". In: *Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems*, pp. 1–18.

Lu, Zhuoran et al. (2023). "Strategic Adversarial Attacks in AI-assisted Decision Making to Reduce Human Trust and Reliance". In: *Proceedings of the Thirty-Second International Joint Conference on Artificial Intelligence, IJCAI 2023, 19th-25th August 2023, Macao, SAR, China*. ijcai.org, pp. 3020–3028.

Chiang, Chun-Wei and Ming Yin (2022). "Exploring the Effects of Machine Learning Literacy Interventions on Laypeople's Reliance on Machine Learning Models". In: *27th International Conference on Intelligent User Interfaces*, pp. 148–161.

Chiang, Chun-Wei and Yin, Ming (2021). "You'd better stop! Understanding human reliance on machine learning models under covariate shift". In: *13th ACM Web Science Conference 2021*, pp. 120–129.