Chun-Wei Chiang

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Summary

Ph.D. student in Computer Science specializing in human-AI interaction, applied machine learning, and computational social science. Proactive problem-solver with 10+ peer-reviewed research publications. Experienced in natural language processing, recommendation algorithms, driver-autonomous vehicle interaction, and building web applications.

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

Research Intern, Honda Research Institute January 2023 - Present
- 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 reliance 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
- 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.
- 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

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.
- Promoted the company to potential investors and successfully raised over $50,000 from accelerators.

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+ of 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

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 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.

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.