

Chun-Wei Chiang

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SUMMARY

Ph.D. in Computer Science with a focus on advanced machine learning, including expertise in large language models and generative AI techniques. Proven track record of designing and deploying scalable recommendation systems that integrate transformer-based architectures with recommendation systems during industry internships. Skilled in optimizing end-to-end ML pipelines using Python and TensorFlow, with a strong ability to translate complex data insights into highly personalized user experiences. Eager to contribute my expertise and passion for innovative AI solutions as a Machine Learning Engineer.

EDUCATION

Ph.D. in Computer Science, Purdue University	2020 - May 2025
M.S. in Computer Science, West Virginia University	2016 - 2018

PROFESSIONAL EXPERIENCE

Purdue University Graduate Research Assistant	January 2020 - Present
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- **LLM-Based Multi-User Chatbot:** Engineered and deployed a sophisticated chatbot leveraging large language models to facilitate multi-user interactions. This solution integrated chain-of-thought reasoning using Python, PyTorch, and Hugging Face libraries, resulting in a 13% improvement in team performance during complex decision-making tasks.
- **Empowering Responsible AI Adoption:** Led research to develop robust human-AI collaboration workflows designed to foster more equitable outcomes and responsible AI adoption.

Amazon Applied Science Intern	June 2023 - August 2023
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- **Recommendation System Improvement:** Developed and fine-tuned an LLM-based recommendation system that boosted recommendation precision by 15%.
- **Data-Driven Optimization:** Leveraged Python and SQL to conduct feature engineering on large-scale user behavior datasets, optimizing machine learning models for superior predictive accuracy.
- **Cutting-Edge LLM Research:** Explored generative LLM-based recommendation systems to uncover innovative approaches for item-to-item recommendations.

Honda Research Institute Research Scientist Intern	January 2023 - May 2023
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- **Automated Research Paper Extractor:** Engineered an end-to-end pipeline using Python (Requests, BeautifulSoup) for data crawling and GPT for natural language processing, incorporating advanced prompt engineering and multi-agent classification to efficiently summarize and categorize research papers, streamlining literature reviews and accelerating access to critical research insights.
- **Autonomous Vehicle Research:** Conducted quantitative analysis on large-scale driver interaction data with autonomous and conventional vehicles, uncovering key behavioral patterns that led to improved usability, enhanced driver satisfaction, and safer interface designs.

Brain Technologies Natural Language Processing (NLP) Research Intern	June 2022 - August 2022
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- **Video-Based Recommendation System:** Developed a recommendation system leveraging YouTube watch history data to enhance accuracy and relevance by applying multimodal understanding and recommendation algorithms.
- **RAG-Powered Knowledge Retrieval:** Integrated a large language model with real-time online search to implement a Retrieval Augmented Generation (RAG) framework, dynamically retrieving and incorporating up-to-date information for more context-aware responses.
- **Data-Driven Restaurant Recommendation:** Developed a two-stage recommendation system that initially filtered restaurants using collaborative filtering algorithms and then re-ranked options using advanced LLM techniques.

Covoir

January 2019 - August 2019

Co-founder

- **Investor-Ready Vision & Funding:** Successfully secured \$500 K seed funding by effectively communicating complex and innovative ideas to investors and the public, transitioning the startup from concept to operational stage.
- **Integrated Product Leadership:** Led end-to-end product development, collaborating closely with engineering teams to integrate decentralized oracle services into blockchain ecosystems, ensuring data reliability and accuracy.

West Virginia University

January 2017 - August 2019

Graduate Research Assistant

- **Data Collection:** Developed a Google Chrome extension to collect 10K+ real-world data points on crowdsourcing tasks, enabling detailed analysis of worker completion times and informing improvements in time estimation.
- **Predictive Modeling for Fair Compensation:** Built a predictive model using task content and metadata to estimate hourly wages, achieving approximately 70% accuracy and providing actionable insights for equitable compensation.
- **Enhancing Worker Efficiency:** Designed an online peer support tool to foster professional skill development among crowd workers, leading to a 32% increase in work efficiency and improved task completion rates across multiple online platforms.

Mitake Information

November 2014 - June 2016

Software Engineer

- **High-Impact Android Development:** Engineered and maintained eight high-performance Android applications for stockbrokers using the Android SDK, ensuring seamless performance across a wide range of devices.
- **Market Penetration & User Engagement:** Achieved over 1 million downloads, significantly enhancing user engagement and satisfaction within the financial services industry.

SKILLS

Machine Learning	Recommendation Systems, Collaborative Filtering, LLMs
Programming Language	Python, R, JavaScript, HTML, Java
Tools and Frameworks	Git, TensorFlow, Pytorch, Sklearn, Hugging Face
Database Processing	SQL, PostgreSQL, MySQL, MongoDB, Pandas
Full-stack Web development	Vue.js, React, Django, Amazon Web Services (AWS)
Research Skills	Data Analysis, A/B Testing, Quantitative Research, Qualitative Research

HONOR AND CERTIFICATION

- Google Certificate: Foundations of Project Management
- Best Poster Honorable Mention, The World Wide Web Conference (WWW'19)

SELECTED PUBLICATIONS

Published 10+ papers on the top conferences, including CHI, IJCAI, IUI, and CSCW. [[Google Scholar](#)]

- [1] Chun-Wei Chiang, Zhuoran Lu, Zhuoyan Li, and Ming Yin. "Enhancing AI-Assisted Group Decision Making through LLM-Powered Devil's Advocate". In: *Proceedings of the 29th International Conference on Intelligent User Interfaces*. 2024, pp. 103–119.
- [2] Chun-Wei Chiang, Zhuoran Lu, Zhuoyan Li, and Ming Yin. "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*. 2023, pp. 1–18.
- [3] Chun-Wei Chiang and Ming Yin. "You'd better stop! Understanding human reliance on machine learning models under covariate shift". In: *Proceedings of the 13th ACM Web Science Conference 2021*. 2021, pp. 120–129.