

Jerry (Jui-Chieh) Wu

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Target Position:

Machine Learning Engineer / Applied Scientist / Research Engineer

Areas of Expertise:

Generative models, Recommendation Algorithms, Natural Language Processing, Representation Learning.

Experience:

Senior Machine Learning Engineer at Meta/Facebook

September 2021 –

- Controllable Content Generation (2023-Present):
 - Lead a team of 8 to assure quality and relevant image / video generations, collaborated with cross-functional teams.
 - Architected and rolled out image and video foundation model-based guardrails, creating paradigms that can improve acceptance rates by 20% and increase eligible traffic by 400%.
 - GenAI model development, including text-to-image, virtual try-on, and image-to-video generations.
 - Strategic planning, fine-tune LLaMA (vision instructed LLM) models with RL for image and video enhancement.
 - Refined RL approaches to enhance GenAI model quality, leading to superior A/B test results in user engagements.
- Instagram Ad Layout Optimization (2022-2023):
 - Collaborated with the ads ranking team, devised a contextual bandit model that dynamically optimized IG ad layouts.
 - Conducted A/B and reverse B/A testing, achieving a 2.5% boost in metrics, a multi-ten-million-dollar revenue growth.
- Vibe-Signature Features (2021-2022):
 - Led the project, collaborated with cross functional teams, developed a self-supervised learning model to encode IG image collections into a "vibe" representation for brand, celebrity, and user matching.
 - Integrated into Meta's feature generation pipeline, demonstrating statistically significant uplift in relevance and user engagement metrics in downstream tasks.
- Research Projects (2023-Present)
 - Guided 4 research interns through their projects with collaborations, of which they got [1] in submission and [2] accepted at CVPR 2024.
- Conducted 150+ ML and coding interviews for Meta recruiting, contributed to the company's talent acquisition.

Senior AI Engineer at LinkedIn

May 2020 – June 2021

- Fine-tuned pre-trained NLP models for web page category classification and named entity recognition.
- Built and validated enterprise product and service datasets using graph-based techniques.

Senior Research Engineer at Zalando

October 2016 – April 2020

- Led the technical direction of the recommendation team, pioneered the E2E DL-based recommenders to production systems.
- Developed personalized product re-ranking models for search and browsing to boost user engagement and revenue.
- Developed personalized relevant [4] and complementary [3] recommenders for fashion items with +3% CTR and CVR.
- Built an end-to-end model training and evaluation pipeline using TensorFlow and Airflow on AWS, enabling automated hyperparameter tuning.

Staff Software Engineer at HTC

November 2011 – August 2016

- Developed a deep learning-based sentiment and topic monitoring system for company forums.
- Designed and implemented an app recommendation system using Spark MLlib and Hadoop.
- Built the backend for HTC BlinkFeed, handling content fetching, indexing, and web frontend integration.

Senior Software Engineer at TrendMicro

January 2009 – October 2011

- Developed an automated analysis module for tracking malicious websites, increasing threat detection by 20%.
- Built a distributed domain reputation system for security threat analysis.
- Designed a web user browsing history graph system for detecting web-based threats using graph algorithms.

Research Assistant in Network and Systems Lab

February 2007 – June 2008

- Designed and evaluated a distributed algorithm for real-time video codec adaptation [5][6].

Selected Publications:

- [1] H. Liu, Multiple authors, **J. C. Wu**, S. He, T. Xiang, J. Schmidhuber, J. Pérez-Rúa, **MarDini: Masked Autoregressive Diffusion for Video Generation at Scale**, ArXiv 2410.20280
- [2] J. Ren, M. Xu, **J. C. Wu**, Z. Liu, T. Xiang, A. Toisoul, **Move Anything with Layered Theme Diffusion**, in CVPR 2024.
- [3] **J. C. Wu**, J. Sanchez and H. Corona, **Session-based Complementary Fashion Recommendations**, In *FashionXRecsys, Collocated with ACM Conference on Recommender Systems*, Copenhagen, 2019.
- [4] J. Sanchez, **J. C. Wu**, and M. Khandawala, **Two-Stage Session-based Recommendations with Candidate Rank Embeddings**, In *FashionXRecsys, Collocated with ACM Conference on Recommender Systems*, Copenhagen, 2019.

- [5] **J. C. Wu**, P. Huang, J. J. Yao, Homer H. Chen, **A Collaborative Transcoding Strategy for Live Broadcasting over Peer-to-Peer Networks**, In *IEEE Transactions on Circuits and Systems for Video Technology*, Feb, 2011
- [6] M. T. Lu, **J. C. Wu**, K. J. Peng, P. Huang, Jason J. Yao, Homer H. Chen, **Design and Evaluation of a P2P IPTV System for Heterogeneous Networks**, In *IEEE Transactions on Multimedia, special issue on content storage and delivery*, Dec, 2007

Education:

National Taiwan University, Taipei, Taiwan.

Graduate Inst. Of Computer Science and Information Engineering

M.S. from Graduate Institute of CSIE, *September 2004 – June 2006*

(GPA:4.0/4.0)

B.S. from Dept. of CSIE, college of EECS, *September 2000 – June 2004*

(Junior & Senior GPA:3.75/4.00)

Technologies:

Machine Learning: Pytorch, Num/Scipy, Tensorflow

Programming Languages: Python, Scala, Java, SQL

Dev Tools: Jenkins, JIRA, Airflow, Presto, AWS, Git, Kuperbetes.