Hung-Ju Chen

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SKILLS

Generative AI Safety, Integrity System, Recommendation Algorithm and System, Pytorch, Pandas, Python, C++, SQL, Hack/PHP

EXPERIENCE

Senior Machine Learning Engineer, Generative AI Media Safety, *Meta Inc* May 2023 - Present

- By doing model fine-tuning, reduced:
  - ~23% of model bias among different demographics
  - ~40% of harmful association (eg. inappropriate association between african and monkey) prevalence
- By doing prompt engineering, reduced ~45% model bias among different demographics
- By doing negative prompt injection, reduced ~13% harmful association prevalence
- Conducted a regular red teaming session with 20+ engineers providing adversarial samples
- Reduced violating (nudity, violent, …etc.) images by 20% with training data filtering

Senior Machine Learning Engineer, Marketplace Integrity, *Meta Inc.* Apr. 2022 - Apr. 2023

- Achieved a 6.7% improvement in ROC AUC compared to the latest product model with the initial Marketplace User Risk Estimate ML model
- Reduced scam prevalence by up to 38.9% with a language model scanning marketplace messages
- Developed initial ML tools and processes, onboarding 20 training pipelines and launching 4 models

Senior Machine Learning Engineer, Ads Core ML Robustness, *Meta Inc.* June 2021 - Mar. 2022

- Tech lead of 2 machine learning research scientists
- Mitigated the impact of signal loss, particularly Apple's App Tracking Transparency (ATT) policy
- Researched and implemented ideas for calibration model improvements:
  - A modified machine learning algorithm for a calibration model utilizing heterogeneous data (transfer learning data, anonymized aggregated data, …etc.)
  - A modified machine learning algorithm for a calibration model utilizing time series model prediction

Machine Learning Engineer, Ads Core ML Robustness, *Meta Inc.* Jan. 2020 - May 2021

- Built a new end-to-end calibration system in prepare of Apple's App Tracking Transparency (ATT) policy, improving calibration stability by 19.4%
- Incorporated time-based signals into the calibration model model, for improving stability in the signal loss world. It improves calibration stability by 90% in the post-signal loss world

Machine Learning Engineer, Ads Core ML Foundation, *Meta Inc.* Apr. 2018 - Dec. 2019

- Improved ads predictability by generalizing the ads ranking models, leading to 5% revenue gain
- Built a machine learning validation framework for the ads ranking stack. The framework helped 3 teams meet their launch goal, and saved up to 21 engineers' working days

Software Engineer Intern, Applied Machine Learning, *Meta Inc.* June 2017 - Sept. 2017

- To reduce space usage in the database, added a customer-defined time to live (TTL) attribute into the data pipelines
- Reduced 80% space usage for short-term data and 40% for long-term data
- Transformed the engine of the Facebook main machine learning platform

Climate Initiatives

Terra.Do Climate Change: Learning For Action, Zebra Cohort Feb. 2023 - April 2023
Climatebase Fellowship Cohort 3 May 2023 - July 2023
Climate Change AI Summer Camp June 2023 - July 2023
Introduction to Battery Management System, Coursera Sep. 2023 - Oct. 2023

EDUCATION

M.Sc in Computer Science (GPA: 3.85/4.0) Sept. 2016 - Dec. 2017
University of California, Santa Cruz
Thesis: *Johnnie C-N. Chang, **Robert H-J. Chen**, Jay Pujara, Lise Getoor, "Clustering System Data using Aggregate Measures", SysML (2018)* https://mlsys.org/Conferences/doc/2018/201.pdf

- Proposed new aggregate measures for clustering system data
- The new aggregate measures performed the best among state-of-the-art metrics by ~3.3%

B.Sc in Computer Science (Major GPA: 4.03/4.3) Sept. 2012 - June 2016
National Chiao Tung University, Hsinchu, Taiwan