Jiahui (Karen) Chen

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https://jiahuikchen.github.io

Education

UNIVERSITY OF TEXAS AT AUSTIN
Ph.D. Electrical and Computer Engineering 2023 to Present
Advisor: Dr. Amy Zhang
Research Areas: deep generative models, uncertainty quantification in deep learning

UNIVERSITY OF UTAH
B.S. Computer Science, Minors in Math and Cognitive Science 2016 to 2020
Graduated Cum Laude, Recipient of the President's Scholarship, Regents' Scholarship

Research & Professional Experience

SOFTWARE ENGINEER – META
Gen AI: AI Generated Stickers Dec 2022 - July 2023
Developed pipelines and metrics for evaluating text-to-image generative models used for AI Generated Stickers in Messenger and WhatsApp.
Implemented prompt engineering that enabled image generation quality to reach production standards.

Bayesian Modeling at Meta Research July 2022 - Nov 2022
Bayesian modeling, with our own probabilistic programming language.
Implemented Bayesian optional stopping in Meta's A/B tests, to preemptively stop experiments that would result in metric regression, saving revenue and resources.

Probabilistic Neural Networks At Meta Research June 2020 - July 2022
Benchmarked and applied uncertainty quantification methods for deep learning in ranking, anti-scraping, and computer vision models in Meta products. Focused on failure prevention and signaling in out-of-distribution and adversarial data settings.

SOFTWARE ENGINEERING INTERN – INSTAGRAM (META) 2019
Trained computer vision models and designed auto-machine learning thresholding infrastructure that detect and delete guideline-violating media on Instagram.

EXPLORE INTERN – MICROSOFT AI & RESEARCH ORG 2018
Constructed a webpage parser that used NLP to find property-value pairs in tables.

NETWORK TRAFFIC CLASSIFICATION FOR NetSecOps (NSF #1642158) 2018 - 2021
First author on a similarity-based, probabilistic network traffic classification paper.

SLATE: SERVICE LAYERS AT THE EDGE (NSF #1724821) 2017 - 2018
Research assistant and developer for an experimental high performance computing platform that hosts research computing applications on distributed compute resources.

Publications

Animesh Sinha*, Bo Sun*, Anmol Kalia*, Arantxa Casanova*, **Jiahui Chen**, et al. *"Text-to-Sticker: Style Tailoring Latent Diffusion Models for Human Expression"*. Submitted to CVPR 2024

Hang Wang*, Sahar Karami, **Jiahui Chen**, et al. *"Training Set Cleansing of Backdoor Poisoning By Self-supervised Representation Learning"*. IEEE ICASSP 2023

Li Chen, **Karen Chen**, Purvi Goel, Ilknur Kaynar Kabul. *"Augment Your Deterministic Model with Monte Carlo Dropout to Combat Noisy Labels"*. Poster in WiML Workshop 2021

Jiahui Chen*, Joe Breen , Jeff M. Phillips, Jacobus Van der Merwe. *"Practical and Configurable Network Traffic Classification Using Probabilistic Machine Learning". Springer Cluster Computing Volume 25 Issue 4*

Joe Breen, Lincoln Bryant,, **Jiahui Chen**, et al. *"Managing privilege and Access on Federated Edge Platforms". Proceedings of the Practice and Experience in Advanced Research Computing on Rise of the Machines (Learning)*, PEARC'19

Joe Breen, Lincoln Bryant, **Jiahui Chen**, et al. *"Developing Edge Services for Federated Infrastructure Using MiniSLATE". Proceedings of the Practice and Experience in Advanced Research Computing on Rise of the Machines (Learning)*, PEARC '19

Joe Breen, Lincoln Bryant, Gabriele Carcassi, **Jiahui Chen**, et al. *"Building the SLATE Platform".* In *Proceedings of the Practice and Experience on Advanced Research Computing*, PEARC '18

Awards & Honors

National Science Foundation Computer and Information Science and Engineering Graduate Fellowship (CSGrad4US), 2022

Cockrell School of Engineering Multi-Year Fellowship, 2023

Volunteering & Leadership

Coding Course TA – Code Tenderloin
2020 to 2022 – Teaching Assistant for free introductory JavaScript courses provided by a non-profit that serves the Tenderloin community of San Francisco.

Section Leader – Code In Place
2021 – Teaching team member for a 6-week online programming course offered by Stanford University. Over 12,000 students from around the world participated.

Undergraduate Student Advisory Committee – School of Computing, University of Utah
2018 to 2020 - Faculty review and student event organization.

Student Ambassador – College of Engineering, University of Utah
November 2016 to May 2020 - Tours, outreach, and presentations leader.

AmeriCorps Service Term
December 2016 to August 2017 - 300 hour service term for a community health nonprofit.