Taeuk Jang

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Education

Purdue University	West Lafayette, IN
Doctor of Philosophy in Electric and Computer Engineering	Aug. 2018 – May. 2024 (Expected)
Korea University	Seoul, South Korea
Bachelor of Science in Electronic and Electrical Engineering	Mar. 2011 – Feb. 2018

WORK EXPERIENCE

Applied Scientist Intern	May. 2023 – Sep. 2023
Amazon Inc, DEX AI	Bellevue, WA

- Developed end-to-end Chatbot pipeline with various functionalities: feedback, conversation style, enriched meta-reference, etc.
- Experienced state-of-the-art techniques: Retrieval Augmented Generation (RAG), prompt engineering, modifying RoPE for scaling, etc.
- Studied quantitative evaluation metric for unsupervised NLP tasks
- Designed fine-tuning framework with user feedback and pre-processing scattered documents
- Presented the project to VP

Applied Scientist Intern

May. 2022 – Aug. 2022 Seattle, WA

Amazon Inc, DEX AI

- Conducted research on exploring customer intention prediction
- Developed Deep Learning framework for multi-constraint cost minimization for recommendation
- Filed patent and published two papers with the project in internal conferences (acceptance rate 15%)

Research Assistant

Machine Learning Lab, Purdue University

- Studied methodology to mitigate machine discriminations in various domains
- Conducted research in deep/machine learning interpretability

Research Intern

C-design Lab, 3D Vision Team, Purdue University

- Participated in development of deep learning based real-time 6D object pose estimation
- Generated RGBDT dataset and pre-processing for aligning RGB-D with thermal camera
- Developed state-of-the-art point cloud upsampling and reconstruction

Research Intern

TeeLabs, R&D Team

- Developed state-of-the-art algorithm for accurate indoor 3D map generation
- Developed object detection and dividing object meshes algorithms

Sep. 2019 – Present West Lafayette, IN

Sep. 2017 – Feb. 2018 Seoul, South Korea

Apr. 2019 – Dec. 2019

West Lafayette, IN

PROFESSIONAL PUBLICATIONS

Taeuk Jang, and Xiaoqian Wang, "Difficulty-based Sampling for Debiased Contrastive Representation Learning", In Proceedings of the 2023 IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2023

Junyi Chai, **Taeuk Jang**, and Xiaoqian Wang *"Fairness without Demographics through Knowledge Distillation"*, In Thirty-sixth Conference on Neural Information Processing Systems (NeurIPS), 2022

Taeuk Jang, Pengyi Shi, and Xiaoqian Wang, "Group-Aware Threshold Adaptation for Fair Classification", In Thirty-Sixth AAAI Conference on Artificial Intelligence (AAAI), 2022

Taeuk Jang and Xiaoqian Wang, "Constructing a Fair Classifier with Generated Fair Data", In ThirtyFifth AAAI Conference on Artificial Intelligence (AAAI), 2021

C. J. Nam, **Taeuk Jang**, and N. L. Doh, "Generating Topological maps for Autonomous Navigation using the Sparsest Graph Cut Method," In The Institute of Electronics and Information Engineers (IEIE), 2018

IN-PROCESS

Taeuk Jang and Xiaoqian Wang, *"Fairness without Sensitive Information: A Class-Wise Weighted Risk Minimization Approach."*

Taeuk Jang, Hongchang Gao, Pengyi Shi and Xiaoqian Wang, *"Fair Contrastive Learning for Classification"*

Taeuk Jang, Xiaoqian Wang and Heng Huang, "Learning Fair Representation via Posterior Regularization"

Taeuk Jang, Xiaoqian Wang and Heng Huang, "Adversarial Fairness Network"

Taeuk Jang, and Xiaoqian Wang, "Deep Fair Clustering for Computational-Unidentifiability"

Taeuk Jang, and Xiaoqian Wang, "FADES: Fair Disentanglement with Sensitive Relevance"

PROFESSIONAL SERVICES

Conference Review

- NeurIPS 2022
- ICML 2022
- AAAI 2022, 2023, 2024

TEACHING EXPERIENCE

Teaching Assistant	
Purdue University, Computer	Engineering

West Lafayette, IN

• ECE473 – Introduction to Artificial Intelligence (Spring, 2021)

- ECE570 Artificial Intelligence (Fall, 2020)
- ECE264 Advanced C Programming (Spring, 2020)

Awards & Scholarship

Travel Award, CVPR, Vancouver, Canada, 2023

Honor scholarship, City of Ulsan, 2017

Sukrim Honor Scholarship (1 out of 200), Korea University, 2015

Award of academic excellence (10 out of 200), Korea University, 2014-2017