Jared Hwang

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Education	**University of Southern California**, Los Angeles, CA	Jun 2021 – Aug 2023
	M.S. Computer Science	
	GPA: 4.00, MS Honors Program	
	Tufts University, Medford, MA	Aug 2016 – May 2020
	B.S. Physics, B.S. Computer Science	
	GPA: 3.94, summa cum laude, Sigma Pi Sigma Honor Society	
Research Experience	**Research Internship**: Digital Typhoon	Jan 2023 – Aug 2023
	National Institute of Informatics (NII), Tokyo, Japan	
	Supervisor: Prof. Asanobu Kitamoto	
	Designed and built Pyphoon2, a dataloader for the Digital Typhoon Dataset. Designed and ran ML benchmark experiments, including classification, regression, and forecasting of typhoon intensity. Work accepted to NeuRIPS 2023 Datasets and Benchmarks. [Web] [Code]	
	Research Assistant: ML on LArTPC	May 2020 – Sep 2021
	Tufts University, Medford, MA	
	Supervisor: Asst. Prof. Taritree Wongjirad	
	Designed and ran ML experiments on neutrino detector image datasets. Created autoencoder based image compression model, producing 80% smaller filesizes compared to JPEG. Prototyped spatial loss algorithm for detector image segmentation.	
	Research Assistant: IsoDAR	Jun 2018 – Mar 2020
	Massachusetts Institute of Technology (MIT), Cambridge, MA	
	Supervisor: Prof. Janet Conrad	
	Developed a particle accelerator simulation code for radio frequency quadrupoles (RFQ). Ran simulations with greater accuracy and 20% faster than competing solutions. Included visualization and parallel computing capability. [Code]	
	Research Assistant	Sep 2017 – May 2018
	Tufts University, Medford, MA	
	Supervisor: Assoc. Prof. Anna Sajina	
	Performed statistical analysis and crossmatching of two astronomical satellite datasets.	

Projects	**Simulation Inference on Urban Traffic Data**	Nov 2021 – Dec 2021
	University of Southern California, Los Angeles, CA	
	Applied Bayesian conditional density estimation simulation inference to traffic simulations of the Seattle area. [Web]	

Publications	**Digital Typhoon: Long-term Satellite Image Dataset for the Spatio-Temporal Modeling of Tropical Cyclones**	Sep 2023
	Asanobu Kitamoto, **Jared Hwang**, Bastien Vuillod, Lucas Gautier, Yingtao Tian, Tarin Clanuwat.	
	NeuRIPS *– Conference on Neural Information Processing Systems, 2023.*	

Talks	**Machine Learning for the Digital Typhoon Dataset**	Jun 2023
	Yokohama National University (YNU), Yokohama, Japan	
	Fujitsu & YNU Typhoon Research Lab Joint Research Workshop	

Honors	**N. Hobbs Knight Prize Scholarship**	May 2020
	Tufts University, Medford, MA	
	For demonstrating outstanding ability in theoretical and experimental physics.	

Industry Exp.	**Software Development Engineer**	Oct 2023 – Present
	Amazon, Seattle, WA	
	Software Development Engineer Internship	May 2022 – Aug 2022
	Amazon, Seattle, WA	
	Integrated Apache Airflow workflow orchestrator for ML pipelines.	

Teaching	**Graduate Teaching Assistant**	
	USC CSCI576: Multimedia Systems Design	Sep 2022 – Dec 2022
	Undergraduate Teaching Assistant	
	Tufts COMP105: Programming Languages	Jan 2020 – May 2020
	Tufts COMP40: Machine Structure and Assembly Language Programming	Sep 2018 – Jan 2020

Technical Skills	**Programming**
	Python, C++, C, Java, JavaScript, SQL
	Machine Learning & Development
	PyTorch, Tensorflow, PyTorch Lightning, Apache Airflow, Docker
	Language
	Conversational Mandarin, Conversational Japanese