# JARED HWANG

*Curriculum Vitae: Updated Oct 2025*

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## Education

09/2024 - *Present* **University of Washington**, Seattle, WA
Ph.D. Computer Science & Engineering
*Advisor: Prof. Jon E. Froehlich*

06/2021 - 08/2023 **University of Southern California**, Los Angeles, CA
M.S. Computer Science
*GPA: 4.00, M.S. Honors Program*

08/2016 - 05/2020 **Tufts University**, Medford, MA
B.S. Physics, B.S. Computer Science
*GPA: 3.94, summa cum laude, Sigma Pi Sigma Honor Society*

## Conference Publications

[C2] **"Where can *I* Park?" Understanding Human Perspectives and Scalably Detecting Disability Parking from Aerial Imagery** [pdf]
**Jared Hwang**, Chu Li, Hanbyul Kang, Maryam Hosseini, Jon E. Froehlich.
*In Proceedings of ASSETS'25*

[C1] **Digital Typhoon: Long-term Satellite Image Dataset for the Spatio-Temporal Modeling of Tropical Cyclones** [pdf] [Web] [Code]
Asanobu Kitamoto, **Jared Hwang**, Bastien Vuillod, Lucas Gautier, Yingtao Tian, Tarin Clanuwat.
*In Proceedings of NeuRIPS'23*

## Workshops, Posters, and Extended Abstracts

[W2] **RAMPNET: A Two-Stage Pipeline for Bootstrapping Curb Ramp Detection in Streetscape Images from Open Government Metadata** [pdf]
John S. O'Meara, **Jared Hwang**, Zeyu Wang, Michael Saugstad, Jon E. Froehlich
*ICCV'25 Workshop on Vision Foundation Models and Generative AI for Accessibility*

[W1] **"Does the cafe entrance look accessible? Where is the door?" Towards Geospatial AI Agents for Visual Inquiries** [pdf]
Jon E. Froehlich, **Jared Hwang**, Zeyu Wang, John S. O'Meara, Xia Su, William Huang, Yang Zhang, Alex Fiannaca, Philip Nelson, Shaun Kane
*ICCV'25 Workshop on Vision Foundation Models and Generative AI for Accessibility*

## Research Experience

09/2024 - *Present* **UW Makeability Lab**, University of Washington, Seattle, WA, USA
Advisor: Prof. Jon E. Froehlich

- Created *BikeButler*, a bike-routing platform that allows users to generate, view, customize, and save bicycle routes based on fine-grained preferences on eight 'bikeability' features. Conducted 16 user-study interviews.
- Developed and evaluated *AccessParkCV*, a CV pipeline that automatically detects and measures the width of disability parking spaces from aerial imagery. Created and released an 11,762 object dataset, and conducted 11 needfinding interviews [C2]

01/2023 - 08/2023 **NII Kitamoto Lab**, National Institute of Informatics (NII), Tokyo, Japan
Advisor: 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 published to NeuRIPS 2023 Datasets and Benchmarks. [C1]

05/2020 - 09/2021 **Tufts Neutrino Group**, Tufts University, Medford, MA, USA
Advisor: 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.

06/2018 - 03/2020 **MIT Laboratory for Nuclear Science**, MIT, Cambridge, MA, USA
Advisor: Prof. Janet Conrad and Dr. Daniel Winklehner
Developed a particle accelerator simulation code for radio frequency quadrupoles (RFQ) in the IsoDAR experiment. Ran simulations with greater accuracy and 20% faster than competing solutions. Included visualization and parallel computing capability. [Code]

09/2017 - 05/2018 **Tufts Sajina Lab**, Tufts University, Medford, MA
Advisor: Prof. Anna Sajina
Performed statistical analysis and crossmatching of two astronomical satellite datasets.

## Projects

11/2021 - 12/2021 **Simulation Inference on Urban Traffic Data**
University of Southern California, Los Angeles, CA
Applied Bayesian conditional density estimation simulation inference to traffic simulations of the Seattle area. [Web]

## Industry Experience

10/2023 - 10/2024 **Software Development Engineer**
Amazon, Seattle, WA
Maintained massive pipelines and databases for customer behavior and purchase data.

05/2022 - 08/2022 **Software Development Engineer Internship**
Amazon, Seattle, WA
Integrated Apache Airflow workflow orchestrator for ML pipelines.

## Invited Talks

10/2025 **Pacific Northwest Transportation Consortium (PacTrans) '25**
*BikeButler: Creating and Previewing Personalized, Context-Sensitive Bicycle Routes*

06/2023 **Fujitsu & YNU Typhoon Research Lab Joint Research Workshop**
*Machine Learning for the Digital Typhoon Dataset*

## Service

**Paper Reviews**

- ICCV'25 Workshop on Vision Foundation Models and Generative AI for Accessibility

**Teaching Assistant**

- UW CSE160 Data Programming (Wi'25, Fa'25)
- USC CSCI576 Multimedia Systems Design (Fa'22)
- Tufts COMP105 Programming Languages (Sp'20)
- Tufts COMP40: Machine Structure and Assembly Language Programming (Fa'18, Sp'20)

## Honors

05/2020 **N. Hobbs Knight Prize Scholarship**
Tufts University, Medford, MA
*For demonstrating outstanding ability in theoretical and experimental physics*

## Technical Skills

**Programming**
Python, C++, C, Java, JavaScript, SQL, R

**Machine Learning & Development**
PyTorch, Tensorflow, PyTorch Lightning, Docker, Slurm, Apptainer

**Language**
Conversational Japanese, Conversational Mandarin