Jason Li

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Education

ETH Zurich / University of Zurich, MS in Neural Systems and Computation   Sept 2023 – May 2025
- **Thesis:** Investigating the Hippocampo-Cortical Dynamics of Schematic Learning using Artificial Neural Networks (written externally at the RIKEN Center for Brain Sciences under the supervision of Dr. Louis Kang)
  Supervisors: Dr. Benjamin Grewe (ETH Zurich, Zurich) and Dr. Louis Kang (RIKEN, Japan)

Boston University, BA in Computer Science & minor in Biology   Sept 2018 – Dec 2021
- Cum. GPA: 3.6/4.0

Experience

Machine Learning Consultant, Boston University School of Public Health – Boston   Feb 2021 – Sept 2023
Machine Learning Scientist (Feb 2021-Dec 2021)
PIs: Profs. Chris Gill & Margrit Betke
- Performed ML and software engineering on various Deep Learning/Computer Vision pipelines with the goal of improving pneumonia diagnoses from point-of-care chest and lung ultrasounds

Machine Perception Intern, Artificio.org – remote   Dec 2022 – Apr 2023
- Research towards understanding 1.) human affect/aesthetic valence through the analysis of DNNs (OpenCLIP, ViT, etc.) via layer-/neuron-wise activations, network predictivity, etc and 2.) philosophical implications of greater use of Foundational Models (e.g., GPT, Gemini, etc.) in domains like artistry, ownership, and governance

Technical Student, European Organization for Nuclear Research (CERN) – Geneva   Jan 2022 – Sept 2022
Advisor: Dr. Maurizio Pierini
- Worked on a Graph Neural Network based algorithm for end-to-end particle reconstruction and identification from calorimeter deposits post collision

Research Assistant, Boston University Physics/CMS Group – Boston   Nov 2019 – Dec 2021
PI: Dr. Lawrence Sulak
- Helped finish software for an upgrade to CERN CMS Hi-Granularity Calorimeter data acquisition system

Visiting Scholar in Computational Medicine, UCSF Radiology – San Francisco   May 2021 – Dec 2021
Advisors: Dr. Peder Larson & Abhejit Rajagopal
- Implemented Online Hard Example Mining tool in PyTorch Lightning to improve Renal Cell Carcinoma classification; wrote custom dataloaders and samplers to improve class balance

Publications

R Thompson, U Khan, <u>J Li</u>, L Etter, I Camelo, R Pieciak, I Castro-Aragon, B Setty, C Gill, L Demi, M Betke. Effectiveness of transferring ultrasound deep learning models from adults to pediatrics for frame based pneumonia classification. *The Journal of the Acoustical Society of America*. (2023). https://doi.org/10.1121/10.0018616   Apr 2023

Posters/Abstracts

Artificial intelligence-based brightness profiles pattern recognition to detect pediatric pneumonia from lung ultrasound images, *Society for Pediatric Radiology*   Apr 2022

Jason Li, Margrit Betke, Christopher Gill, Russell Thompson, Kaihong Wang, Lauren Etter, Ingrid Camelo, Hailey Chang, Bindu Setty, Ilse Castro, Rachel Pieciak

Using Artificial Intelligence to Interpret Pneumonia CXR (chest X ray) Findings in Children with a Phone Application Platform, *Society for Pediatric Radiology*   Apr 2022

Russell Thompson, Rachel Pieciak, Christopher Gill, *Jason Li*, Kaihong Wang, Lauren Etter, Ingrid Camelo, Bindu Setty, Ilse Castro, Hailey Chang, Margrit Betke,

A Test Beam & Cosmic Facility to Evaluate, Calibrate, and Monitor HGCAL Hexaboards, *CERN Large Hadron Collider Student Conference 2021*   Nov 2021

Jason Li, Nick Adams, Hasung Song, Mikhail Sharov, Lawrence Sulak

NIM+: an FPGA-based Replacement to Legacy NIM in Test Beams, *CERN Physics and Radiobiology Experimental Beam Tests Workshop*   Feb 2021

Chris Cosby, *Jason Li*, Mikhail Sharov, Y. Situ, Hasung Song, Lawrence Sulak

Skills and Technologies

Programming Languages: Python, R, MATLAB, C, Java, Bash

Software/Frameworks: PyTorch, PyTorch Lightning, TensorFlow, Scikit-Learn, OpenCV, Git/Github, LaTeX

Spoken Languages: English, Cantonese, Mandarin, French, German (B1), Japanese (JLPT N5)

Extracurriculars

Freelance Photographer (2018-present): participated in paid shoots; photographs accessible via links below
https://www.instagram.com/jasonli12/ | https://jasonfli12.myportfolio.com

AI + Art volunteer, ETH Zurich AI Center (2023-2024): with ex-Cabaret Voltaire curator Dr. Adrian Notz, helped explore the increasing role and usage of AI in art and its implications for the future

BostonHacks Organizer, former Head of Logistics (2018-2021)

Interests: Hiking/camping, triathlons, rock climbing, badminton, photography, piano, cooking & baking