Changho Shin

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https://ch-shin.github.io
1210 W Dayton St, Madison, WI 53706

INTERESTS *Machine Learning, Data Science*

EDUCATION

University of Wisconsin-Madison Sep. 2020 –
• Ph.D. Student in School of Computer, Data & Information Sciences
• Advisor: Professor Frederic Sala • Pursuing additional MS degree in Math

Seoul National University Mar. 2015 – Feb. 2017
• M.S. in Department of Transdisciplinary Studies
• Thesis: Application of Traditional ML and DNN Techniques on Energy Disaggregation with 10 Hz AMI Data
• Advisor: Professor Wonjong Rhee, IEEE Fellow

Seoul National University Mar. 2011 – Feb. 2015
• B.A. in Psychology
• B.S. in Computer Science and Engineering
• Graduated with honors (Cum Laude)

PUBLICATIONS

[1] Joon Suk Huh*, **Changho Shin***, Elina Choi, "Pool-Search-Demonstrate: Improving Data-wrangling LLMs via better in-context examples", *NeurIPS 2023 Workshop: Table Representation Learning (TRL)* 2023.

[2] Dyah Adila*, **Changho Shin***, Linrong Cai, Frederic Sala, "Zero-Shot Robustification of Zero-Shot Models With Auxiliary Foundation Models", *NeurIPS 2023 Workshop: Robustness of Few-shot and Zero-shot Learning in Large Foundation Models (R0-FoMo)* 2023.

[3] **Changho Shin***, Tzu-heng Huang*, Sui Jiet Tay, Dyah Adila, Frederic Sala, "Multimodal Data Curation via Object Detection and Filter Ensembles", ICCV 2023 Datacomp Workshop (Winning solution in datacomp competition filtering track (small)).

[4] **Changho Shin**, Sonia Cromp, Dyah Adila, Frederic Sala, "Mitigating Source Bias for Fairer Weak Supervision", NeurIPS 2023.

[5] **Changho Shin**, Alice Schoenauer-Sebag, "Can we get smarter than majority vote? Efficient use of individual rater's labels for content moderation", *NeurIPS 2022 Workshop: Efficient Natural Language and Speech Processing (ENLSP)* 2022.

[6] **Changho Shin**, Winfred Li, Harit Vishwakarma, Nicholas Roberts, Frederic Sala "Universalizing Weak Supervision", *International Conference on Learning Representations (ICLR)* 2022.

[7] **Changho Shin**, Eunjung Lee, Jeongyun Han, Jaeryun Yim, Hyoseop Lee, Wonjong Rhee, "The ENERTALK Dataset, 15 Hz Electricity Consumption Data from 22 Houses in Korea", *Nature Scientific Data*, 2019 (Impact Factor = 5.929).

[8] **Changho Shin**, Seungeun Rho, Hyoseop Lee, Wonjong Rhee, "Data Requirements for Applying Machine Learning to Energy Disaggregation", *Energies*, May 2019 (Impact Factor = 2.707).

[9] **Changho Shin**, Sunghwan Joo, Jaeryun Yim, Hyoseop Lee, Taesup Moon, Wonjong Rhee, "Subtask Gated Networks for Non-Intrusive Load Monitoring", *AAAI Conference on Artificial Intelligence* 2019 (Acceptance Rate = 16.2%).

JOB EXPERIENCE

Twitter, San Francisco, USA — Jun. 2022 – Aug. 2022
ML Engineer Intern (Health team)
• Mentor: Alice Schoenauer Sebag • Manager: Milind Ganjoo

Encored Technologies, Seoul, Korea — Jan. 2018 – Jul. 2020
Data Scientist
• Advisor: Dr. Hyoseop Lee

Korea Institute for Defense Analyses, Seoul, Korea — Jan. 2017 – Dec. 2017
Researcher

TEACHING EXPERIENCE

University of Wisconsin-Madison
• Teaching assistant for CS 839 (Foundation Models) — Fall 2023
• Teaching assistant for CS 300 (Programming II) — Fall 2022, Spring 2023
• Teaching assistant for CS 760 (Machine Learning) — Fall 2021, Spring 2022
• Teaching assistant for CS 320 (Data Programming II) — Spring 2021
• Teaching assistant for CS 220 (Data Programming I) — Fall 2020

HONORS

CS Departmental Scholarship — 2020
University of Wisconsin-Madison

1st Creative National Defense Conference - 2nd Place — 2016
Ministry of National Defense
• Topic: Cooperative unmanned aircraft system with reinforcement learning

Merit-based Scholarship — 2015
Seoul National University

Graduate Coursework

• M2680.001300 Machine Learning for Information Studies @ SNU
• M2680.001400 Social Computing @ SNU
• 493.613 Mathematics for Intelligent Systems (Numerical Linear Algebra) @ SNU
• 493.701 Learning and Applications of Deep Neural Networks @ SNU
• M0000.005400 Convex Optimization @ SNU
• M0000.005400 Neural Networks @ SNU
• CS537 Introduction to Operating Systems @ UW
• CS639.004 Introduction to Computational Learning Theory @ UW
• CS726 Nonlinear Optimization 1
• CS744 Big Data Systems @ UW
• CS761 Mathematical Foundations of Machine Learning @ UW
• CS784 Foundations of Data Management @ UW
• CS787 Advanced Algorithms @ UW
• CS839-7 Probability and Learning in High Dimension @ UW
• CS880 Advanced Topics in Learning Theory @ UW
• Math521 Analysis I @ UW
• Math522 Analysis II @ UW
• Math551 Elementary Topology @ UW
• Math629 Introduction to Measure and Integration @ UW
• Math621 Analysis III (Analysis on Manifolds) @ UW
• Math721 A First Course in Real Analysis @ UW
• Math733 Theory of Probability I @ UW
• Math761 Differentiable Manifolds @ UW

TECHNICAL SKILLS

Machine Learning / Deep Learning / Data Science
PyTorch, TensorFlow, Keras, scikit-learn, NumPy, Pandas, SciPy

DBMS
MySQL, MongoDB, PySpark

Research & Development Tools

Jupyter, PyCharm, Docker, GitHub, CircleCI, Shell, Amazon Web Services

Programming Languages
Python, R, MATLAB, Java, Go, C, LaTeX