

CONTACT ⚡ <https://xudongolivershen.github.io>
 ⚡ <https://www.linkedin.com/in/oliverxudongshen>
 ✉ xudong.shen@u.nus.edu
 ☎ (+65) 88296866 or (+86) 18658143615

EDUCATION Ph.D. in Computer Science, *National University of Singapore*, Singapore 2019–2024
 B.A. in Naval. Arch. & Ocean Eng., *Zhejiang University*, China 2015–2019

SKILLS **Ethical & Safe AI:**
 Familiar with (i) the technical methods for ensuring the social alignment of AI (LLMs, text-to-image diffusion models,...) and (ii) AI governance.
ML and AI:
 Experienced with (i) vision, NLP, generative, and multimodal models; (ii) image, sensor, sequential, language, and FinTech data.
Statistical Modeling:
 Big data analysis and structural modelling using the R and Python stack. Experienced with survival modelling, financial default analysis, and social network data analysis.

EXPERIENCE *Doctoral Researcher, N-CRiPT Centre*, NUS, Singapore 2019–2024
 (a) Conduct research in ML and FinTech: (i) guarantee fairness in downstream tasks via pre-trained fair representations, (ii) structural modeling of million online peer-to-peer lending transaction data to estimate default risk, profitability, and discrimination.
 (b) Communicated scientific insights to both academic and industry audience in 10 papers (4 first-authored) and 5+ talks.
 (c) Assisted teaching the course *Computational Methods for Business Analytics* twice, totally 150+ hours to 200+ undergraduate students. Prepared weekly recap materials, videos, and Q&A sessions.
 (d) Actively contributed to open-community projects in NLP, including [BIG-Bench](#), [natural language instructions](#), [NL-Augmenter](#), and [LLM's Inverse Scaling](#).
 (e) Co-organized (i) the Responsible, Regutable AI working group at NUS and (ii) the [Algorithms, Law, and Policy working group](#) at [EAAMO bridges](#) (formerly [MD4SG](#)).
Research Intern, Sea AI Lab, Sea Limited, Singapore Nov. 2022–Sep. 2023
 (a) Worked on finetuning text-to-image diffusion models for fairness and led collaboration with 5 researchers from 2 institutes (NUS & Sea AI Lab). Published in ICLR 2024 with oral presentation.
Undergrad Researcher, Second Institute of Oceanography, China Jul. 2017–Jul. 2019
 (a) Worked on the full stack of satellite remote sensing image segmentation using Python & Matlab, incl. data preprocessing, labeling, neural net training and validating.
Undergrad Researcher, Waseda University, Japan Sep. 2018–Feb. 2019
 (a) Analyzed the effectiveness of Japan's policy toward the elimination of Persistent Organic Pollutants (POPs), and proposed policy recommendations to China.
Undergrad Researcher, York University, Canada May–Aug. 2018
 (a) Worked on fluid dynamics simulation of a hydrodynamically focused printing process for printed electronics, using COMSOL and FLUENT, in collaboration with 5 other researchers.

PUBLICATIONS [Publications on fairness:](#)
 1. **Xudong Shen**, Chao Du, Tianyu Pang, Min Lin, Yongkang Wong, Mohan Kankanhalli, “Finetuning Text-to-Image Diffusion Models for Fairness”, In *ICLR* (2024), ([Oral, top 1.2%](#)).

2. **Xudong Shen**, Tianhui Tan, Tuan Q. Phan, Jussi Keppo, “Gender Animus Can Still Exist Under Favorable Disparate Impact: a Cautionary Tale from Online P2P Lending”. In *ACM Conference on Fairness, Accountability, and Transparency (FAccT)* (2023).
3. **Xudong Shen**, Yongkang Wong, Mohan Kankanhalli, “Fair Representation: Guaranteeing Approximate Multiple Group Fairness for Unknown Tasks”. In *IEEE Trans. PAMI* (2023).

[Publications on AI safety and benchmarking:](#)

4. Ian McKenzie, ..., **Xudong Shen**, ... (26 authors), “Inverse Scaling: When Bigger Isn’t Better”, In *TMLR* (2023).
5. Kaustubh D Dhole, ..., **Xudong Shen**, ... (125 authors), “NL-Augmenter: A Framework for Task-Sensitive Natural Language Augmentation”. In *Northern European Journal of Language Technology (NEJLT)* (2023).
6. Aarohi Srivastava, ..., **Xudong Shen**, ... (450 authors), “Beyond the Imitation Game: Quantifying and Extrapolating the Capabilities of Language Models”. In *JMLR* (2023).
7. Yizhong Wang, ..., **Xudong Shen**, ... (40 authors), “Benchmarking Generalization via In-Context Instructions on 1,600+ Language Tasks”. In *EMNLP* (2022).

[Publications on AI governance:](#)

8. Ayse Gizem Yasar, Andrew Chong[†], Evan Dong[†], Thomas Krendl Gilbert[†], Sarah Hladikova[†], Roland Maio[†], Carlos Mougán[†], **Xudong Shen**[†], Shubham Singh[†], Ana-Andreea Stoica[†], Savannah Thais[†], “Integration of Generative AI in the Digital Markets Act: Contestability and Fairness from a Cross-Disciplinary Perspective”, (2024), LSE working papers series. ([†] = equal contribution)
9. **Xudong Shen**, Hannah Brown, Jiashu Tao, Martin Strobel, Yao Tong, Akshay Narayan, Harold Soh, Finale Doshi-Velez, “Directions of Technical Innovation for Regulatable AI Systems”, In *Communications of the ACM*, (forthcoming).

[Other publications on AI:](#)

10. Ziwei Xu, **Xudong Shen**, Yongkang Wong, Mohan Kankanhalli, “Unsupervised Motion Representation Learning with Capsule Autoencoders”. In *NeurIPS* (2021).

TALKS & PRESENTA- TIONS	ICLR conference 2024, Vienna, Austria	2024
	SEA AI Lab, Singapore	2023, 2024
	N-CRiPT Seminar, <i>National University of Singapore</i> , Singapore	2022, 2023, 2024
	FAccT conference 2023, Chicago, USA	2023
	International Conference on Smart Finance 2022, Online	2022
	Workshop on Enormous Language Models, <i>ICLR conference 2021</i> , Online	2021
SERVICE	<i>Organizer</i> : MD4SG Algorithms, Law, and Policy working group AY 2023/2024.	
	<i>Area Chair</i> : NeurIPS 2023 Regulatable ML Workshop.	
	<i>Reviewer</i> : EMNLP 2022, ICLR 2023, WACV 2023, ACL 2023.	
FELLOWSHIPS	DAAD Alnet Fellow, <i>DAAD</i> , Germany	2024
	Master Kong Dream Scholarship Program, <i>Waseda University</i> , Japan	Sep. 2018-Feb. 2019
	Globalink Research Internship, <i>York University</i> , Canada	May.-Aug. 2018
	Erasmus+ Student Mobility, <i>Università di Trento</i> , Italy	Feb.-Jun. 2017