

# LEXINGTON WHALEN

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## SUMMARY

I am a first year Ph.D. student at Georgia Institute of Technology advised by Yingyan (Celine) Lin. My research interests include robust and scalable machine learning.

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## EDUCATION

<b>Georgia Institute of Technology</b> , Atlanta, GA, USA	Aug 2024 - Present
Ph.D. in Computer Science Advised by Professor Yingyan (Celine) Lin	
<b>University of South Carolina</b> , Columbia, SC, USA	Jan 2024 - Aug 2024
M.S. in Computer Science Advised by Professor Homayoun Valafar Graduated under the Accelerated Master's program with 4.0/4.0 GPA	
<b>University of South Carolina, Honors College</b> , Columbia, SC, USA	Aug 2020 - Dec 2023
B.S. in Computer Science Advised by Professor Homayoun Valafar and Professor Stanley Dubinsky Graduated Summa Cum Laude with 4.0/4.0 GPA	
<b>Toyo University</b> , Tokyo, Japan	Apr 2023 - Aug 2023
Graduated with 4.26/4.3 GPA All courses in standard Japanese	

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## PUBLICATIONS

### Preprints

- P1. **Lexington Whalen\***, Zhenbang Du\*, Haoran You\*, Chaojian Li, Sixu Li, Yingyan (Celine) Lin., "Early-Bird Diffusion: Investigating and Leveraging Timestep-Aware Early-Bird Tickets in Diffusion Models for Efficient Training", Submitted to Computer Vision and Pattern Recognition (**CVPR**), 2025.

### Peer Reviewed Conference Proceedings

- C1. **Lexington Whalen**, Homayoun Valafar., "DataDock: An Open Source Data Hub for Research.", International Conference on Data Science (**ICDATA**), 2024.
- C2. **Lexington Whalen**, Dalton Craven, Shashank Comandur, Nathan Bickel, Homayoun Valafar, Stanley Dubinsky., "Wordification: A New Way of Teaching English Spelling Patterns.", Congress in Computer Science, Computer Engineering, & Applied Computing (**CSCE**), 2023.
- C3. Anyssa Murphy, **Lexington Whalen**, Michael Gavin, John Frederick Bailyn, Jackson Ginn, Stanley Dubinsky., "On "Historic Unity" or Russian and Ukrainian: A Linguistic Perspective on Language Conflict and Change.", Proceedings of the Linguistic Society of America (**LSA**), 2023.
- C4. **Lexington Whalen**, Gabrielle Turner-McGrievy, Matthew McGrievy, Andrew Hester, Homayoun Valafar., "On Creating a Comprehensive Food Database.", International Conference of Computational Science and Computational Intelligence (**CSCI**), 2023.

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## HONORS AND AWARDS

- NSF Graduate Research Fellowship, 2024-2029
- Top Scholar, University of South Carolina, 2020-2024
- John L Dales Scholarship, SAG-AFTRA Foundation, 2020-2024
- NASA Space Grant Scholar, NASA, 2023

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\* Indicates equal contribution.

- Exchange Student Representative, Toyo University, 2023
- Outstanding Senior Award, University of South Carolina, 2023
- Critical Language Scholar, United States Department of State, 2023
- Marva Smalls Scholarship, University of South Carolina, 2022-2023

## RESEARCH EXPERIENCE

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**Efficient Language Model Training** Jan 2025 - Present

- Work on long context modeling strategies for state-space models.

**Efficient Diffusion Model Training** Sept 2024 - Present

- Developed methods to apply the Lottery Ticket Hypothesis for efficient diffusion model training.
- Prepared preprint for submission to CVPR '25.

**TinyML for Medicine** Jun 2024 - Present

- Lead algorithmic development in ARPA THOR Project.
- Develop TinyML methods to compensate for sensor degradation in the HAMMR device.
- Collaborate with a multidisciplinary team from Georgia Tech, Rice, UT Austin, Stanford, Carnegie Mellon, Northwestern, and Johns Hopkins.

## PROFESSIONAL EXPERIENCES

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**Efficient Data Filtering Challenge with NVIDIA**, Atlanta, GA, USA Dec 2024 – Present

- Contributed to the organization of the Efficient Data Filtering Challenge in collaboration with NVIDIA researchers by creating the website and monitoring challenge status.
- Assisted in developing, training, and evaluating baseline models, as well as conducting ablation studies to analyze model performance.

**English-Japanese Translator**, Columbia, SC, USA & Tokyo, Japan Apr 2023 - Aug 2024

- Translated business emails, manga, news articles from Japanese to English and vice versa.

**Research Assistant**, Columbia, SC, USA Jan 2021 - Aug 2024

- Conducted research in comparative linguistics and data-driven health analytics under the supervision of Dr. Stanley Dubinsky and Dr. Homayoun Valafar

## LANGUAGES

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English (Native), Japanese (Fluent, N1 Certified), Mandarin (Intermediate)