

# LEXINGTON WHALEN

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## SUMMARY

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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.

## EDUCATION

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<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	
<b>University of South Carolina</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	

## PUBLICATIONS

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### Preprints

- P1. **Lexington Whalen**, Zhenbang Du, Haoran You, Yingyan (Celine) Lin., “Early-Bird Diffusion: Accelerating Diffusion Model Training via Timestep-Aware Early-Bird Tickets”, to be 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.

## HONORS AND AWARDS

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- NSF Graduate Research Fellowship, 2024-2029
- Exchange Student Representative, Toyo University, 2023
- Top Scholar, University of South Carolina, 2020-2024
- Outstanding Senior Award, University of South Carolina, 2023
- John L Dales Scholarship, SAG-AFTRA Foundation, 2020-2024
- Marva Smalls Scholarship, University of South Carolina, 2022-2023
- Critical Language Scholar, United States Department of State, 2023

- NASA Space Grant Scholar, NASA, 2023

## RESEARCH EXPERIENCE

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### Efficient Diffusion Model Training

Sept 2024 - Present

- Successfully applied Early-Bird Ticket Hypothesis to diffusion models, and proposed and validated the existence of timestep-aware tickets.
- Prepared preprint for submission to CVPR '25.

### THOR's HAMMR

Jun 2024 - Present

- 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.

### mLIFE

Oct 2021 - Aug 2024

- Deployed front and back end for development website in Django and React.
- Assisted in development of production site using PHP's Symfony library.
- Analysis of data collected during study with PyTorch, NumPy, Pandas.
- Assisted in manuscript preparation.

### Wordification

Apr 2021 - Aug 2024

- Managed team of undergraduate students, delineating tasks and directing the project.
- Submit for grants, journals, and conferences for the project.
- Assisted in development of webapp using Redwood library.
- Present at conferences and spoke with educators and students to promote the project.

### Human Activity Recognition

July 2022 - Oct 2023

- Developed file transmission service using Django REST API and React.
- Designed accompanying application for Android mobile devices using Kotlin.
- Prepared manuscripts for publication.

### Language Conflict Project

Apr 2021 - Oct 2022

- Automated calculation of language distances using modified Levenshtein distance.
- Prepared manuscripts for publication.

## PROFESSIONAL EXPERIENCES

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### November LLC, Columbia, SC, USA

Aug 2023 - Aug 2024

- Founded own consultation company.
- Consulted clients on web design and deployment.

### English-Japanese Translator, Columbia, SC, USA & Tokyo, Japan

Apr 2023 - Apr 2024

- Tutored high school / college students and business people in both the Columbia and Tokyo areas.
- Translated business emails, manga, news articles from Japanese to English and vice versa.

## LANGUAGES

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