Katsumi Ibaraki

PHD STUDENT IN COMPUTER SCIENCE AND ENGINEERING

University of Notre Dame, Holy Cross Dr, Notre Dame, IN 46556

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https://www.linkedin.com/in/katsumi-ibaraki-a96716177/

Education

University of Notre Dame — *Notre Dame, IN*
PHD IN COMPUTER SCIENCE AND ENGINEERING — *2024 - Present*

University of Michigan — *Ann Arbor, MI*
MASTER OF SCIENCE IN COMPUTER SCIENCE AND ENGINEERING — *2022 - 2024*
- GPA: 4.00

Ohio State University — *Columbus, OH*
BACHELOR OF SCIENCE IN COMPUTER SCIENCE AND ENGINEERING, BACHELOR OF ARTS IN JAPANESE — *2018 - 2022*
- GPA: 3.91

Research Experience

University of Notre Dame - Computer Science and Engineering — *Notre Dame, IN*
SUPERVISOR: DR. DAVID CHIANG — *2024 - Present*
- Developing data augmentation techniques for low-resource Automatic Speech Recognition
- Analyzing non-speech sounds, such as onomatopoeia

University of Michigan - Computer Science and Engineering — *Ann Arbor, MI*
SUPERVISORS: DR. RADA MIHALCEA, DR. WINSTON WU — *2022 - 2024*
- Analyzing occupational distribution representation in Japanese language models
- Applying audio processing techniques to analyze animal vocalizations

Publications

Katsumi Ibaraki and David Chiang. 2025. Frustratingly easy data augmentation for low-resource ASR. Preprint, arXiv:2509.15373.

Artem Abzaliev*, **Katsumi Ibaraki***, Kohei Shibata, and Rada Mihalcea. Vocalizations of the Parus minor bird: Taxonomy and automatic classification. In *Proceedings of the International Conference on Animal-Computer Interaction (ACI '24)*, Article 8, pages 1–10, New York, NY, USA. Association for Computing Machinery. (* equal contribution)

Katsumi Ibaraki, Winston Wu, Lu Wang, and Rada Mihalcea. 2024. Analyzing occupational distribution representation in Japanese language models. In *Proceedings of the 2024 Joint International Conference on Computational Linguistics, Language Resources and Evaluation (LREC-COLING 2024)*, pages 959–973, Torino, Italy. ELRA and ICCL.

Awards, Fellowships, & Grants

2024	**Dean's Fellowship**, University of Notre Dame	
2022	**D. A. Dickey Scholarship**, Ohio State University	*$ 2,500*
	Maximus Scholarship, Ohio State University	*$ 2,000*

2021	**D. A. Dickey Scholarship**, Ohio State University	*$ 5,000*
	Maximus Scholarship, Ohio State University	*$ 4,000*
2020	**Maximus Scholarship**, Ohio State University	*$ 4,000*
	D. A. Dickey Scholarship, Ohio State University	*$ 2,500*
2019	**Maximus Scholarship**, Ohio State University	*$ 4,000*
	OSU Grant, Ohio State University	*$ 2,000*
2018	**Maximus Scholarship**, Ohio State University	*$ 2,000*
	OSU Grant, Ohio State University	*$ 2,000*

Work Experience · Teaching Experience

Teaching Assistant, CSE 30151: Theory of Computing *Notre Dame, IN*
COMPUTER SCIENCE AND ENGINEERING, UNIVERSITY OF NOTRE DAME *2024 - 2025*
- Introduction to formal languages and automata, computability theory, and complexity theory
- Holding office hours and grading assignments

Graduate Student Instructor, COMPFOR 302 Alien Anatomy: How ChatGPT Works *Ann Arbor, MI*
COLLEGE OF LITERATURE, SCIENCE, AND THE ARTS, UNIVERSITY OF MICHIGAN *2024*
- Developing components of an introductory class for machine learning and large language models, for non-engineering undergraduate students
- Holding office hours, creating assignments, and organizing undergraduate Instructional Assistants

Graduate Student Instructor, SI 650 (EECS 549) Information Retrieval *Ann Arbor, MI*
SCHOOL OF INFORMATION/COMPUTER SCIENCE AND ENGINEERING, UNIVERSITY OF MICHIGAN *2023*
- Developing components of an information retrieval system, including learning-to-rank and doc2query, for class assignments
- Holding office hours and grading assignments

Program Assistant, SI 650 (EECS 549) Information Retrieval *Ann Arbor, MI*
SCHOOL OF INFORMATION/COMPUTER SCIENCE AND ENGINEERING, UNIVERSITY OF MICHIGAN *2023*
- Developing key components of an information retrieval system, including the index and ranker, for class assignments

Mathematics Instructor *Novi, MI*
JAPANESE SCHOOL OF DETROIT *2022 - 2024*
- Instructing high school students on various topics taught in Japan ranging from Algebra to Calculus
- Preparing students for the SAT standardized test math section

English Instructor *Columbus, OH*
COLUMBUS JAPANESE LANGUAGE SCHOOL *2021 - 2022*
- Taught English grammar and composition to high school students, preparing them for college entrance exams in Japan

Private Tutor *Columbus, OH; Ann Arbor, MI*
SELF-EMPLOYED *2017 - 2023*
- Tutoring high school students with a focus on mathematics and English
- Preparing students for the EIKEN and TOEFL English Proficiency Exams

Skills

PROGRAMMING
- **Programming Languages:** Python, Java, JavaScript, SQL, C++
- **Machine Learning:** PyTorch, TensorFlow, scikit-learn
- **Natural Language Processing / Speech:** NLTK, Hugging Face, epitran, librosa, pydub, soundfile
- **Computer Vision / Multimodal:** OpenCV, Torchvision

Outreach & Professional Development

SERVICE AND LEADERSHIP

Organizer *Notre Dame, IN*
MIDWEST SPEECH AND LANGUAGE DAYS 2025, UNIVERSITY OF NOTRE DAME *2025*
- Coordinated logistics for a two-day regional speech and language research conference, including scheduling, attendee registration, and accommodation.
- Chaired a talk session, introducing presenters and facilitating audience Q&A.

Blog Writer *Ann Arbor, MI*
AI LAB, UNIVERSITY OF MICHIGAN *2023 - 2024*
- Planning, writing, and editing blog posts for the AI Lab, to share the CSE graduate students' academic experience, research, and opinions.

Vice President *Columbus, OH*
JAPANESE STUDENT ORGANIZATION, OHIO STATE UNIVERSITY *2020 - 2021*
- Planned and organized Japanese cultural events, overseeing a team of ten board members.
- Successfully attracted 20 to 70 attendees to each online event.

Sponsor Relations *Columbus, OH*
JAPANESE STUDENT ORGANIZATION, OHIO STATE UNIVERSITY *2019 - 2020*
- Negotiated funding and event planning with sponsors.
- Secured two new sponsors and increased the budget by $550, representing a 32% increase.