

Laura Yao

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EDUCATION

University of North Carolina, Chapel Hill

PhD Student in Computer Science

Chapel Hill, NC

August 2025 – Present

Carnegie Mellon University

School of Computer Science

Bachelor of Science in Computer Science

Minor in Language Technology

GPA: 3.88/4.00

Pittsburgh, PA

August 2020 – December 2023

University of Oxford

Visiting Student

Oxford, UK

January 2023 – March 2023

RESEARCH EXPERIENCE

Carnegie Mellon University

Research Assistant, Language Technologies Institute

Pittsburgh, PA

August 2023 – Dec 2023

- Designed a multimodal LLM with retrieval augmentation approach to analyze chest x-rays, creating relevant findings and summaries with both image and text input in collaboration with doctors at UCSF

Research Assistant, Language Technologies Institute

May 2022 – August 2023

- Investigated LLMs with a novel trained diffusion method to augment AudioSet and boost audio classification for an ICASSP 2024 paper/ ICML workshop poster
- Utilized contrastive learning-based models coupled with an audio tagging model to perform video-to-text description in the TRECVID workshop

Research Assistant, Human Computer Interaction Institute

March 2021 – August 2021

- Analyzed parent perspectives on CS education for a SIGCSE published paper
- Performed both qualitative and quantitative survey analysis
- Used Python to perform statistical tests and create relevant graphs

WORK EXPERIENCE

Databricks

Bellevue, WA

Software Engineer, Network Control Plane Team Feb 2024 – Present

- Working on large-scale multi-cloud networking infrastructure
- Responsible for the serverless network billing project to greatly reduce and recoup costs from networking infrastructure
- Helped deliver important network egress products
- Improved scalability and reliability of networking architecture in AWS, Azure, and GCP
- Created better visibility tools for end to end customer experience and enable faster debugging of networking issues

Software Engineering Intern, Core Networking Team May 2023 – August 2023

- Developed an AWS and Kubernetes tool in Scala to manage customer network egress through private link

Meta/Facebook Menlo Park, CA

Software Engineering Intern, Network Delivery Systems Team May 2022 – August 2022

- Worked on a network data tool to improve scale and reliability with Python
- Helped refactor and create new strategies for scheduling while interacting with databases, containers, and jobs

Facebook University Engineering Intern June 2021 – August 2021

- Developed and designed algorithms, visual features, database, and other functionalities for an iOS app using Objective C and Xcode

TEACHING EXPERIENCE

Carnegie Mellon University Pittsburgh, PA

Head Teaching Assistant, Great Practical Ideas of CS August 2021 – December 2023

- Led weekly meetings and created new course material
- Taught lecture to the entire freshman CS class
- Wrote and administered exams for the class

Teaching Assistant, Introduction to Computer Systems January 2022 – May 2022

- Led recitation and held office hours for over 300 students
- Managed bootcamps and course website

PUBLICATIONS

J. B. Li, J. S. Michaels, **L. Yao**, L. Yu, Z. Wood-Doughty, and F. Metze, "Audio-Journey: Open Domain Latent Diffusion Based Text-to-Audio Generation," in ICASSP 2024, 2024. [Online]. Available: <https://ieeexplore.ieee.org/abstract/document/10448220>

J. B. Li, J. S. Michaels, **L. Yao**, L. Yu, Z. Wood-Doughty, and F. Metze, "Audio-journey: Efficient visual+LLM-aided audio codec diffusion," in Workshop on Efficient Systems for Foundation Models @ ICML2023, 2023. [Online]. Available: <https://openreview.net/forum?id=vzMXsTCdFB>

L. J. Yao, J. B. Li, and F. Metze, "CMU-VIDION: Modified BLIP With Audio for Video to Text Description," in Proceedings of TRECVID 2022. NIST, USA, 2022. [Online]. Available: <https://www-nlpir.nist.gov/projects/tvpubs/tv22.papers/vidion.pdf>

J. Solyst, **L. Yao**, A. Axon, and A. Ogan, "It is the future": Exploring parent perspectives of CS education," in Proceedings of the 53rd ACM Technical Symposium on Computer Science Education - Volume 1, ser. SIGCSE 2022. New York, NY, USA: Association for Computing Machinery, 2022, p. 258–264. [Online]. Available: <https://doi.org/10.1145/3478431.3499411>

RELEVANT COURSEWORK

Computer Vision
Machine Learning in Practice
Introduction to Deep Learning
Human Language for AI
Introduction to Computer Systems
Natural Language Processing
Parallel Computer Architecture and Programming
Great Ideas in Theoretical CS

LEADERSHIP

Puzzle Hunt CMU, <i>Treasurer</i>	2021 – 2022
CMIMC (Informatics and Mathematics Competition), <i>Executive Committee</i>	2021 – 2022

AWARDS

Citadel x Amplify Trading Challenge 2023 - Python Challenge 1st Place
Grace Hopper Conference 2020 Attendee
National Merit Winner – \$2500 Scholarship
Regeneron Science Talent Search Scholar
US Presidential Scholar Semifinalist
Mathworks Math Modeling 1st Runner-up – \$15000 Scholarship

SKILLS

Python, Scala, Java, SML, C, LaTeX, SQL, C++, Spark ETL, Jsonnet, Terraform, Kubernetes, Pytorch