

Zhongyang(Kevin) Shao

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EDUCATION

University of Washington

MS in Electrical and Computer Engineering

Seattle, WA

Sept. 2022 - Jun. 2024(Expected)

The Ohio State University

BS in Electrical and Computer Engineering

Columbus, OH

Aug. 2018 - May 2022

- **GPA:** 3.731/4.0 (Magna Cum Laude)
- **Related Coursework:** Engineering Design Process, Data Structure, Discrete Structures, Digital Logic and Design, Operating System, Statistics, Linear Algebra, Machine Learning, Signals and Systems, Computer Architecture and Design, Engineering Technical Communication

TEACHING EXPERIENCE

University of Washington

Graduate Teaching Assistant (EE 215)

Seattle, WA

Jan. 2023 – Present

Graduate Teaching Assistant (Study Abroad Program EE 215 in Lausanne, Switzerland)

Aug. 2023 – Sept. 2023

- Prepare materials and conduct quiz sessions.
- Hold regular office hours, tutor students, and manage and respond to course-related emails.
- Proctor exams, grade exams and lab reports, and attend instructor/TA meetings.
- Create and re-organize the review materials and problem sets served in quiz sessions.
- Help organize lab materials, design quizzes, and lead quiz and lab sessions for the Engineering Switzerland Study Abroad Program led by Prof. Karl Böhringer.

The Ohio State University

Undergraduate Teaching Assistant (Fundamentals of Engineering 1181 and 1182)

Columbus, OH

Aug. 2019 – May 2022

- Explored and led in-depth on various classical topics and design projects in the engineering with instructional team and students in the phase of the problem definition involved research plan, user needs, and value proposition, concept development, and detailed design.
- Attended assigned class and lab session to assist students in their development of basic skills in laboratories and lectures.
- Graded assignments, hold office hours, and conducted review sessions to help students prepare for exams.
- Joined in SILT(Student Instructional Leadership Team) Mentorship Program to provide assistance for new teaching assistants and share experience with freshmen in the College of Engineering.

RESEARCH EXPERIENCE

Elevating Black Corpus and UX in Speech & Language Systems

University of Washington

Seattle, WA

Graduate Research Assistant

Mar. 2023 – Present

(Graduate PI: Jay Cunningham, PhD Candidate; Faculty Advisors: Prof. Daniela Rosner and Prof. Julie Kientz)

- Conducted an audit of three existing corpora that encompasses African American English.
 - Performed a semi-systematic audit of the metadata associated with each corpus, cross-referencing the attributes with sociolinguistic indicators of linguistic variation and ethnic diversity.
- Contribute to the effort “Responsibility and Representation in NLP Data Practices,” employing survey and focus group interview methodologies.
 - Explore consensus-building strategies, success metrics, and quality assurance methods in NLP data production.
 - Investigate approaches to address issues of exclusion, discrimination, and bias within NLP dataset creation, emphasizing strategies to ensure fairness.
 - Identify methods to enhance user representation and bolster AI accountability within NLP data practices.

- Gain insights into challenges and opportunities in NLP data production, shedding light on the pivotal role of policy in algorithmic discrimination protections.

Bycatch: Fishery Detection and Tracking

University of Washington

Seattle, WA

Graduate Research Assistant (Professor: Jenq-Neng Hwang)

Sept. 2022 – Dec. 2023

- Worked on and resolved the overfitting issues caused by the imbalanced dataset between salmon and non-salmon.

Direction of Arrival Estimation with Nonuniform Sparse Arrays

The Ohio State University

Columbus, OH

Undergraduate Team Leader (Professor: Lee C Potter)

Jul. 2021 – May 2022

- Designed, constructed, and operated a narrowband sparse sensor array to estimate direction of arrival (DoA).
- Utilized MATLAB programs and MLE estimator to determine DoAs from relative phases of each sensor in the linear and planar sparse array geometries.
- Demonstrated the array placement strategy and DoA estimation techniques presented in Ohio State University (OSU) invention disclosure T2022-060.

Control and Intelligent Transportations Research

The Ohio State University

Columbus, OH

Research scientist: Ekim Yurtsever

Apr. 2021 – Apr. 2022

- Proposed and developed a small-scale research platform for intelligent transportation systems.
- Solved various dependencies issues and used OpenPCDet to train the KITTI Datasets.
- Used the YOLO algorithm and proposed an approach to extract bidirectional vehicle counts from a moving observation platform with ROSBAG extraction simultaneously and trajectories of observed vehicles.

COVID-19 Analysis with Machine Learning

University of California

San Diego, CA

Assistant Professor: Pengtao Xie

May 2021 – Aug. 2021

- Utilized a DARTS structure-based machine learning method, which can apply to neural architecture search on CIFAR-100, CIFAR-10, and ImageNet, to develop the Learning by teaching (LBT) algorithm in a team setting.
- Applied the provided LBT algorithm to the COVIDx dataset and compared our training results with the model COVID-net to identify the effectiveness.

PROJECTS

Making Electric Vehicle Charging Fun

University of Washington

Seattle, WA

Ford & Envorso

Jan. 2023 – June. 2023

- Create a cloud server that can analyze the signals received from the vehicle's state of charge (SoC).
- Determine the health of an electric vehicle charger using basic parameters such as charging voltage and current.
- Design a user-friendly interface app that will display the charger and vehicle's state of health on a handheld computer, in this case an iOS app.
- Verify and Validate the design by interviewing 3 users that will answer the same questionnaire using multiple 1-5 scale questions for design evaluation.

SKILLS

- Matlab, SQL, Python, Java, C, ROS, SolidWorks, Linux, Arduino Programming, Figma, SwiftUI
- Problem-solving, project management, engineering design process, technical communication, leadership