ADITYA KRISHNA

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PROFESSIONAL SUMMARY

Electrical and Computer Engineering PhD student at the University of Washington studying signal processing, machine learning, acoustics, and auditory neuroscience, to develop biologically-inspired sensing algorithms.

EDUCATION

University of Washington — Seattle, WA
Bachelor of Sciences, Electrical Engineering (Neural Engineering & Signal Processing) — *June 2024*
- Overall GPA: 3.78 / Major GPA: 3.90

RESEARCH EXPERIENCE

PhD Student — September 2024 – Present
Advisor: Professor Wu-Jung Lee, Applied Physics Laboratory — *University of Washington, Seattle, WA*

Undergraduate Researcher — September 2021 – June 2024
Advisor: Professor Wu-Jung Lee, Applied Physics Laboratory — *University of Washington, Seattle, WA*
- **Main Project:** Used data-driven methods to investigate subsampling for passive acoustic monitoring of bats.
- **Data Collection:** Led team efforts between June - December 2023 using **Audiomoths** to record 24-hr ultrasonic acoustic data (roughly 16TB) from 6 locations across a nearby urbanized natural area.
- **Soft Skills:** Supervised training of new lab members and wrote instructional material – uploaded to **GitHub** – to assist fieldwork for collecting acoustic data using Audiomoth recorders.

PUBLICATIONS

Krishna, A., and Lee, W.-J. (2025). "Influence of duty-cycle recording on measuring bat activity in passive acoustic monitoring." **Under review; preprint:** doi:10.1101/2025.04.15.649046

SELECTED CONFERENCE PRESENTATIONS

Krishna A, Lee W-J. (2024) Investigation of Duty Cycles for Measuring Activity in Passive Acoustic Bat Monitoring. The 186th Meeting of the Acoustical Society of America, Ottawa, Ontario, Canada, May 13-17, 2024.

CAPSTONE PROJECTS

These were senior capstone projects that needed to be ideated, proposed, and prototyped over a 10-week quarter.

MyoGrind: Bruxism Management Device (Showcase Winner) — Spring 2024
BIOEN 461: Neural Engineering Tech Studio by Professor Kim Ingraham — *University of Washington, Seattle, WA*
- Led the design of a system that used **Arduino** and **MyoWare** muscle sensors to record EMG from the masseter muscles and detect teeth grinding to notify users via bluetooth, LED indicators, and vibro-tactile stimulation.
- Our team won the final showcase which involved industry experts and medical professionals acting as judges to evaluate our product's value proposition, customer discovery process, and live prototype demo.

HONORS AND AWARDS

Undergraduate Research Conference Travel Award — Office of Undergraduate Research
University of Washington, Seattle — *Spring 2024*

ECE DEI Conference Travel Award — Electrical and Computer Engineering DEI Committee
University of Washington, Seattle — *Spring 2024*

Mary Gates Endowed Research Scholarship — Mary Gates Endowment for Students
University of Washington, Seattle — *Winter 2023*

Technical Skills

Programming Languages: Python, MATLAB, Arduino IDE, Java, LaTeX
Software Libraries: Pandas, SciPy, NumPy, TensorFlow, Keras, scikit-learn
Software Development: Bash, Git/GitHub, VSCode, Conda/Mamba, Jupyter

Research Symposiums

26th Annual Undergraduate Research Symposium   May 19th 2023
University of Washington   *Seattle, WA*
- Presented on preliminary research on duty cycle-based strategic subsampling for the passive acoustic monitoring of bats to reduce data management costs while collecting representative data.

25th Annual Undergraduate Research Symposium   May 20th 2022
University of Washington   *Seattle, WA*
- Presented preliminary results of using Bat Detective, a **CNN**-based bat call detector trained on bat calls from Romania and Bulgaria, and explored its success in detecting bat calls collected from Seattle.