

ADITYA KRISHNA

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PROFESSIONAL SUMMARY

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

EDUCATION

University of Washington

Bachelor of Sciences, Electrical Engineering (Neural Engineering & Signal Processing)

Seattle, WA

June 2024

- Overall GPA: 3.78 / Major GPA: 3.90

RESEARCH EXPERIENCE

PhD Student

Advisor: Professor Wu-Jung Lee, Applied Physics Laboratory

September 2024 – Present

University of Washington, Seattle, WA

Undergraduate Researcher

Advisor: Professor Wu-Jung Lee, Applied Physics Laboratory

September 2021 – June 2024

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](https://github.com) – 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

University of Washington, Seattle

Office of Undergraduate Research

Spring 2024

ECE DEI Conference Travel Award

University of Washington, Seattle

Electrical and Computer Engineering DEI Committee

Spring 2024

Mary Gates Endowed Research Scholarship

University of Washington, Seattle

Mary Gates Endowment for Students

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.