

# Abhinav Bandari

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## EDUCATION

### University of Washington

2020 - 2023

B.S. Computer Science. *Intended graduation month:* June 2023. *Relevant Courses 2020-21:* Programming with Data Structures, Software Design and Implementation, Foundations of Computing I and II, Data Structures and Parallelism. *Activities and Societies:* Advanced Robotics at UW Computer Vision Team, Association for Computing Machinery.

### Interlake High School

2016 - 2020

IB Diploma, National AP Scholar, 4.00/4.00 G.P.A. SAT: 1580/1600, SAT II: Math Level 2: 800/800, Physics: 800/800.

## EXPERIENCE

### Software Developer

Jul. 2020 - Present

Libra, Remote Work

- Contributing to open-source Python machine learning library ([github.com/Palashio/libra](https://github.com/Palashio/libra)) to automate machine learning preprocessing, modeling, training, and evaluation. Library has over 10,000 downloads.
- Personal contributions: Developed functionality for image generation (DCGAN models) and image classification (CNN models) queries.

### Research Assistant

Jul. 2019 - Aug. 2020

Ubiquitous Computing Laboratory, University of Washington, Seattle, WA

- Developed non-contact acoustic sensing algorithm to detect and identify a user's exercise through their smartphone; preparing to submit for publication.
- Implemented ultrasound sensing through phone's speaker and microphone, used Fourier analysis to develop audio spectrograms for each exercise, and trained deep neural networks to analyze the spectrogram images and identify the performed exercise.
- Worked with graduate and undergraduate students; advised by Dr. Shwetak Patel.

### Instructor

Jan. 2019 - Jun. 2019

Coding with Kids, Redmond, WA

- Taught weekly after-school classes to elementary school students in Scratch and Python programming languages.
- Worked with second instructor to teach provided curriculum and adapt lessons as necessary.
- Wrote and submitted feedback on each student's progress after each class.

## NOTABLE PROJECTS

### DawgMaps

Aug. 2020 - Present

- Developed Android application and React web app to crowdsource anonymous user location data and display real-time heatmap visualization of crowds throughout UW campus.
- Developed skills in native app development and cloud computing tools like Google Firebase.
- Built during UW Hack'20 hackathon; top 3 out of 81 teams and won Google Cloud COVID-19 Fund Prize.

### PneumoNet

Oct. 2018 - Apr. 2019

- Developed deep learning classification model to diagnose four heart and lung conditions (pneumonia, pneumothorax, cardiomegaly, pulmonary edema) from chest X-rays obtained from National Institutes of Health.
- Algorithm can potentially be used to diagnose patients in medically underserved areas.
- Won awards at Washington State Science and Engineering Fair (2019).

## AWARDS AND HONORS

- National Merit Scholarship 2020
- First Place Award, Robotics and Intelligent Machines, Washington Science and Eng. Fair 2019, 2020
- IEEE Achievement in Computer Science Award, Washington Science and Eng. Fair 2019
- Sigma Xi Best Interdisciplinary Research Award, Washington Science and Eng. Fair 2019
- Gold Division, USA Computing Olympiad (USACO) 2018

## SKILLS

- Programming Languages:** Java (3 yrs.), Python (2 yrs.), JavaScript (6 mos.), HTML/CSS (6 mos.), SQL (3 mos.)
- Libraries, Tools, and Systems:** TensorFlow/Keras (1 yr.), Jupyter Notebooks (1 yr.), NumPy (1 yr.), Pandas (1 yr.), Amazon Web Services (AWS) (1 yr.), Android SDK (6 mos.), Vim (6 mos.), LaTeX (3 mos.)