Aaptha Boggaram

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EDUCATION

Master of Science in Computer Science , University of Colorado Boulder, Boulder, CO — May 2025

Bachelor of Technology in Computer Science & Engineering, PES University, India — May 2023

Relevant Coursework: Data structures, Algorithms, Networks, Object Oriented Design & Programming, Compiler Design, Advanced Robotics, Operating Systems, Computer Architecture & Organization, Databases, Data Mining and Software Engineering

WORK EXPERIENCE

Course Manager (CSCI 1300: Starting Computing) — Aug 2023 - Present

University of Colorado Boulder

- Created assignments and graded **950+** students' assignments over the course of the semester.
- Managed student discussion platforms and held office hours for helping students with their doubts.

Intern (Radar Division) — Jan 2023 - July 2023

Continental Autonomous Mobility, India

- Demonstrated "Road Type Classification" and "Road Curve Estimation" using Continental's Advanced Radar Sensors as a R&D **core developer** and drafted a conference paper for the work done.
- Developed **novel** algorithms and achieved an **18%** & **25% increase** in performance from Continental's present work, respectively.
- Analyzed, combined, and cleaned raw data signals from radars in order to construct 5+ highly accurate and reliable datasets for further analysis and modeling.

Undergraduate Teaching Assistant (Web Technology - I Course) — Aug 2022 - Dec 2022

PES University, India

- Prepared test papers, generated and evaluated assignments, and assisted a total of 67 students with lab exercises.

Undergraduate Research Assistant — May 2021 - Dec 2021

Centre for Heterogeneous and Intelligent Processing Systems, India

- Designed lightweight **(~8 MB)** machine learning models for effective cardiac anomaly detection on wearable devices.
- Executed and tested models on cutting-edge microprocessors with a benchmark accuracy (Link).

Summer Intern — June 2021 - Sep 2021

LivNsense Technologies Pvt Ltd, India

- Built a computer vision framework for real-time pothole detection and deployed on Arduino Nano BLE sense microprocessor.
- Boosted model efficacy by reducing its size by up to **94.5%** retaining a respectable accuracy for real-time detection.

PUBLICATIONS

- "RtTSLC: A Framework for Real-Time Two-Handed Sign Language Translation." International Conference on Smart Trends in Computing and Communications (pp. 717-726). Singapore: Springer Nature Singapore (Link).
- "Sign Language Translation Systems: A Systematic Literature Review." International Journal of Software Science and Computational Intelligence (IJSSCI), 14(1), 1-33. (Link).
- "Cardiac Anomaly Detection for Wearable Devices." 13th HiPC Student Research Symposium (SRS), Bangalore, India, 2021.

PROJECT EXPERIENCE

***RealSign*: Bidirectional Sign Language Translation** (Python, TensorFlow, Docker, Streamlit, MediaPipe)

- Led a team of 4 and implemented an app for effective bidirectional real-time Indian sign language translation.
- Trained a Siamese Neural Network on a manually (self) collated database containing **34000+** images (**2nd Largest ISL database** in domain. Currently deployed and open source).

Covid Detection using Radiographic Images of the Lung (Python, TensorFlow, OpenCV)

- Created an effective deep learning model with **98%** accuracy and tested it on various benchmark databases.

SKILLS

- Languages: Python & C++ (proficient), C (fluent), Java, PostgreSQL, HTML, JavaScript, MATLAB (prior experience with the rest)
- Programming Skills: Machine Learning, Artificial Intelligence, Data Science, Batch File Programming, Computer Vision
- Tools & Software: Git, Microsoft Office, CMake, Confluence, Docker, Jira Software