sarthakmangla.com
mangla@purdue.edu

Sarthak Mangla

knightron0
sarthakmangla

Education

- **Purdue University** 2022 — 2026
  B.S. in Computer Science; Minors in Mathematics and Bioinformatics
  Activities: Undergraduate Researcher, Heinz Lab (Auditory Neurophysiology and Modeling); Data Mine (Corporate Partners)
  Relevant Coursework: Problem Solving & Object Oriented Programming, Multivariate Calculus

Experience

Founder & Developer **Nov 2019 — Present**
IndivHear *Remote*
- Developed the world's first individualized adaptive deep learning-based hearing aid with fully remote self-controlled fitting and diagnostics procedures.
- Overcame limitations of traditional hearing aids by using a multi-layer convolutional encoder and decoder model with a U-net, accounting for dynamic compression, noise removal, soft clipping and other filters present in hearing aids.
- Built an Android App using Kotlin & NDK (C++) and a Flask & Socket.IO server; used Tensorflow & PyTorch for deep learning, Arduino for hardware.

Co-founder **May 2022 — Present**
Asterisk Labs *Remote*
- Leading a team of 4 to create a engine for writing & grading Linguistics Olympiad problems; building a custom domain-specific language using Lark & Python to allow fully automated grading of subjective-based solutions.
- Designing & developing a web-app using React to allow users to solve problems & submit their own solutions; useful for training for various linguistics olympiads.

Vice President (2021-22); Member (2018-21) **Apr 2018 — May 2022**
Exun Clan (Technology Club) *New Delhi, India*
- Led a team of 100+ secondary school students in organizing an international technology symposium hosting 3000+ participants.
- Prepared problems & tasks for Competitive Programming, Computational Linguistics, and Machine Learning competitions on Codeforces and Kaggle.
- Organized a two-month training program for school students as part of the induction process: mentored prospective members, held sessions, and created assignments throughout.

Honours and Awards

Gold Medal: Indian National Olympiad in Informatics Feb 2022
Indian Team: International Linguistics Olympiad Jul 2021
Second Award: Global Youth Science and Technology Bowl Jun 2021
Platinum Division: USA Computing Olympiad Apr 2021
Bronze Medal: Asia-Pacific Linguistics Olympiad Mar 2021
Gold Medal: Indian Science and Engineering Fair Jan 2021
National Winner: Google Code to Learn Jan 2020

Projects

- **Tempus** Jul 2021 — Aug 2021
  Designed and developed an open-source Chrome Extension using JavaScript and the YouTube API which allows users to manage and view timestamped YouTube comments efficiently. 100+ installs, featured on ProductHunt & Beebom.
- **Cimico** Dec 2019 — Jan 2020
  Built an open-source Python script debugger (using Pillow and OpenCV) which generates a video of the program runtime. Released a PyPi package for the same. Carried out under CCExtractorDevelopment in Google Code-In 2019.
- **Madhooka** Sep 2019 — Jan 2020
  Built convolutional neural networks using Google AutoML to track foraging activity in beehives, allowing beekeepers to keep track of colony health, age structure, honey flow, and pollination.
- **CSAD** Dec 2018
  Led a team of 2 to build an iOS application using Swift focused on making Indian roads safer by allowing users to report accidents. Used Google Fusion tables & a Flask server to generate area-based heatmaps from the crowdsourced data.

Skills

Tools and Languages Python, C++, JavaScript, Kotlin, Swift, Dart, Rust, C, HTML/CSS, LaTeX, MarkDown
Frameworks TensorFlow, PyTorch, Keras, Flask, OpenCV, NumPy, Lark, Pandas
Other Arduino, Git, SQLite, Jupyter Notebooks