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# Sarthak Mangla

knightron0
sarthakmangla

## Education

- **Purdue University** May 2025
  *Bachelor of Science in Computer Science; Minors in Mathematics and Bioinformatics*
  **Relevant Coursework:** Problem Solving & Object Oriented Programming, Multivariate Calculus

## Experience

**The Data Mine: Purdue University** **Aug 2022 — Present**
*Undergraduate Machine Learning Researcher* *West Lafayette, IN*
- Working under Dr. Ti-Chiun Chang from Merck Co. Inc to combine CNNs and probabilistic graphical models in the context of scene understanding for the pharmaceutical industry.

**Heinz Lab** **Aug 2022 — Present**
*Undergraduate Researcher* *West Lafayette, IN*
- Working under Dr. Michael G. Heinz at the Auditory Neurophysiology and Modeling Lab at Purdue University researching deep learning-powered solutions to problems in the auditory space.

**IndivHear** **Nov 2019 — Present**
*Founder & Developer* *Remote*
- Developed the world's first individualized adaptive deep learning-based hearing aid with fully remote self-controlled fitting and diagnostics procedures (patent-pending).
- 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.

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

**Exun Clan (High-School Technology Club)** **Apr 2018 — May 2022**
*Vice President (2021-22); Member (2018-21)* *New Delhi, India*
- Led a team of 100+ secondary school students in organizing an international technology symposium hosting 3000+ participants.
- Organized a two-month training program for school students as part of the induction process: mentored prospective members, held sessions, and designed assignments throughout.

## Projects

- **Tempus** Jul 2021 — Aug 2021
  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
  Made 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.

## Honours and Awards

**Gold Medal:** Indian National Olympiad in Informatics (top 10) Feb 2022
**Indian Team:** International Linguistics Olympiad (top 4 nationally) Jul 2021
**Platinum Division:** USA Computing Olympiad Apr 2021
**Finalist:** IRIS National Fair (Regeneron ISEF Semifinals) Jan 2021
**National Winner:** Google Code to Learn Jan 2020

## Skills

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|---|---|
| **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 |