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Sarthak Mangla

knightron0
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Education

- **Purdue University** May 2026
  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

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