

AARNA CHUGH

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EDUCATION

Hill Spring International School, Mumbai: IBDP	2025
Sophia High School, Bangalore : ICSE (Grade X)	2023

STANDARDISED TESTS

ACT : 35/36	2024
IELTS : 8/9	2024

ACADEMIC AWARDS AND HONOURS

School

- Stood 1st in Hindi language in Grade XI 2024
- Stood 1st in Computer Application in ICSE Grade X (100/100) 2023
- Certificate of Perseverance from Sophia High School in Grade X 2023

International

- Gold Crest Award for research project on early detection of Autism Spectrum Disorder through voice samples using AI 2024
- Gold Award in Queens Commonwealth Essay Competition 2023

INNOVATION

- **Detection of Autism Spectrum Disorder (ASD) using speech recognition** 2023-2024

Built a prototype which inputs a voice recording of a person and detects ASD using Machine Learning . This allows for accessible early diagnostics of children. I also participated in IRIS National Science Fair, WSRO and Technovation Girls competitions with this prototype. My research paper was accepted at ISEEIE, iMACE, SCIS, ICMAS and ICFAMEAD, 2024 conferences. Presented at ICFAMEAD 2024 in October 2024, and won the Best Paper in the AI-ML track.

STEM EXPERIENCE AND RESEARCH WORK

Labwork

- **National Institute of Technology, Kurukshetra** 2024

Conducted studies on 4 stroke petrol engine and braking systems and experiments to determine heat balance sheet and IHP of internal combustion at the Thermal Engineering Lab, Deptt. of Mechanical Engineering

Observerships 2024

- **Remsons Industries Limited** - studied the lean manufacturing process at their Pune plant, over two days, including a detailed study of the assembly line which makes push-pull cables for gear shifters for LCVs made by Tata Motors Limited.
- **General Seal Co. Pvt. Ltd.** – studied the manufacturing process of seals which are used for industrial and marine purposes.
- **NeoMotion Assistive Technologies** – while interning, studied and learnt about the manufacturing process for their new product NeoPower.
- **IIT Madras Research Park** and **IIT Madras**- spent a day with the various start-ups being incubated there to understand their business models, products and innovation led work.
- **Seawater Desalination Plant at Nemmeli, Chennai** - studied and learnt about the entire process of desalination

Online Courses

- **Inspirit AI Scholars Program** 2023
A 2-week long program on Artificial Intelligence. Specially worked on Facial Emotion Recognition, collaborating with students from different countries such as Jordan, China and USA.
- **Coursera** : iPhone Photography Course 2023
- **Coursera** : Python for Data Science 2023
- **OMOTEC** : Python Syntax 1 and 2, Python Image Processing 1 and 2 2023
- **University of Leeds** (Coursera): Fundamental Skills in Engineering Design 2024
- **Kennesaw State University** (Coursera): Six Sigma Principles 2024

Internships

- **Lighthouse Communities Foundation** 2023
A non-profit organisation with national presence working for skilling and betterment of marginalised youth. I worked on their flagship Office Executive Course and introduced AI tools to enhance the learning experience for participants. Done under the guidance of Dr Ganesh Natarajan, Chairman of Honeywell Automation India, 5F foundation and an acclaimed technologist and philanthropist.
- **NeoMotion Assistive Technologies** 2024

A company incubated in IIT Madras Research Park in Chennai manufacturing assistive technologies for self-sufficiency of the disabled and the elderly. I interned for 6 weeks with them in which I created a user manual for their newest product, helped in testing their product for fire safety, did competition analysis for them, and tried to reduce costs for their newest product. This was done under the mentorship of Professor Ashok Jhunjhunwala, President of IIT Madras Research Park, a PadmaShri awardee and one of the top scientists in the country.

EMPOWERMENT- WOMEN FOR STEM

I am very passionate about encouraging more and more young women to undertake education and careers in STEM, which I believe are more sustainable, empowering and remunerative in the long term. I work with multiple cohorts of women and organise study tours for them to manufacturing plants to give them hands-on experiences with STEM. During my school breaks, I have been making trips to Pune, to facilitate these study tours.

- **Lighthouse Communities Foundation** 2024

Coordinated and organised visits for multiple batches of young women from beneficiaries of Lighthouse Communities to Remsons Industries, Pune.

- **Avanti Fellows** 2024

Organised visits for a group of underserved girl students, preparing for engineering entrance examinations to multiple factories to inspire them to take up core engineering streams.

SUMMER PROGRAMS

- **ATLAS Summer Tech School, Mumbai** 2023

I learnt about AI and ML and their application in different industries, at this two week program.

- **Imperial College, London - Global Summer School (Engineering)** 2024

Learned about different engineering streams and worked on a lot of team projects, of which my team won the Grand Innovation Challenge.

LEADERSHIP

- Student Coordinator for HSI Science Club 2024
- Editor of HSI IBDP Newsletter 2023 & 2024
- Initiator and leader of HSI Chess Club 2023
- Selector and Captain of Sophia High School Chess Team 2022 & 2023
- Member of Planning Committee for Farewell to Grade X students 2022

MUSIC ACHIEVEMENTS

- **Violin** : ABRSM Grade 6 cleared 2014-2024
 - Performed on multiple occasions in front of large and small audiences
 - Distinction in Grade 5 music theory exam of ABRSM
- **Vocals** : performed at school annual day, Imperial College London and at other events 2023 & 2024

WRITING PURSUITS

I have been writing since the age of 7. My articles, stories, poems have been lauded and published in school magazines every year.

CHESS

2014-2024

As a consistent learner and player of chess since the age of 6, I have participated in tens of state, national and international competitions, representing my school, state and country. My classical FIDE rating is 1512. Some highlights for the last 4 years are:

- 1st Position: ISSO National Chess Tournament 2024
- 1st Position : Inter-House Chess Competition at Sophia High School, Bangalore 2021 & 2022
- 1st Position : CISCE Regional Inter School Sports and Games, Karnataka 2022
- 2nd Position: CISCE National Sports and Games (representing Karnataka) 2022

COMMUNITY SERVICE

- **Muktangan** : Taught students of Grade 3 and 4 at Global Mill Passage School, Mumbai 2023 & 2024

EXTRACURRICULARS AND INTERESTS

Learning Spanish on Duo Lingo, photographer, budding meme maker, self-taught keyboarder and guitarist, avid reader, traveller. Worked at an Edtech Startup - BeyondSkool in 2023.

Skills: Python Programming