Vaanee Tripathi

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Education

Ashoka University — Sonepat, India
B.Sc. in Computer Science — *March 2026*
CGPA: 3.36

Apeejay School — Noida, India
Senior School Examination — *March 2021*
- Overall percentage: 96.2

Apeejay School — Noida, India
Secondary School Examination — *March 2019*
- Overall percentage: 97.2

Technical Skills

Intermediate Proficiency
- Robotics, Prototyping, Working with Microcontrollers, Soldering, Python, C, Figma, Canva, Wix, CAD modelling, Computer Vision, 3D printing, PCB Designing, Data Analysis and Visualisation, LaTeX, Technical Writing

Basic Proficiency
- Machine Learning, OpenGL, Software Development, Git, Pygame, FastAPI, HTML, CSS, Generative AI, Prompt Engineering

Projects

Accessible Intro to CS Curriculum | *Independent Study Module* — February 2025 – Present
- Devised a comprehensive 5-pronged strategy to improve accessibility in CS education, addressing content, visual aids, inclusive assignments, psychosocial support, and teaching team training.
- Conducted interviews with students with VI, designers, professors, professionals, and learning support staff to incorporate real-world insights into the curriculum design.
- Designed a tactile learning kit to translate visual computing concepts into accessible, multisensory formats.
- Preparing for user testing with visually impaired CS students to collect feedback and iterate on the curriculum for real-world effectiveness

The Air Purifier Project | *A frugal open-source device to make clean air accessible* — February 2025 – Present
- Conducted extensive research on air purification principles and fluid dynamics to inform structural design and airflow optimization.
- Created a comprehensive moodboard and design brief to guide frugal, open-source development.
- Currently designing and building a functional prototype of the air purifier, focusing on low-cost materials and efficient construction as well as a sensor-based system to validate filtration efficacy.

Refreshable Tactile Dot Grid | *A tool to teach visually-heavy concepts* — February 2024 – Present
- Accepted as a poster submission at the Assistive Technology Industry Association 2025 Conference and HCII International 2025 (along with a short paper publication).
- Conceptualised, ideated, structured a pipeline for a device to teach visually impaired persons visual concepts in mathematics/computer science in classroom settings
- Worked on a codebase individually to ensure it picks up relevant data from a video using openCV and converts it to a form that can be passed to the hardware
- Designing a frugal dot cell that works using minimal power and with considerable efficacy

Web Accessibility Enhancer Tool | *Making non screen-reader friendly websites accessible* — August 2024 – Present
- Conceptualized and initiated the development of a browser extension leveraging axe-core to evaluate web accessibility and generative AI to reinterpret non-screen reader-friendly content in real-time. Development currently paused.

GenArt | *A novel medium of performance using projections* — January 2023 – April 2023
- Developed and executed a unique project idea at the intersection of art, performance, and technology.
- Learnt a new software within a two-month time-frame and gained enough proficiency to help other team members through the process.
- Conducted thorough hardware research, aided in handling logistics, and conceptualized creative performance themes and script.

Work Experience

Makerspace Intern/Community Mentor June 2023 - Present
Mphasis Ashoka Digital Makerspace *Ashoka University*

- Led the design and development of a comprehensive curriculum for an upcoming undergraduate course, organizing a knowledge base into an accessible repository.
- Mentored high school and undergraduate students, provided research assistance to PhD students, and conducted hands-on training in hardware tools, soldering, microcontrollers, and 3D printing.
- Contributed to apparatus design, software development, and research consultation for professors and collaborative projects, including a prototyping initiative with NCBS.
- Mentored high-school students, enhanced operations assisted PhD students on their research work, and trained undergraduate students in varying levels of study in a workshop setting

Mentor September 2024 - Present
CreateED *Ashoka University*

- Guided students in electronics, 3D printing, and software design, supporting them in developing innovative projects for prestigious competitions, including IRIS.

Project Intern June 2024 - July 2024
Indian Institute of Technology *Bombay*

- Participated in a six-week intensive invention program developing a product to monitor food health and provide early spoilage alerts. Provisional Patent pending
- Collaborated with peers to brainstorm, research, design, and prototype innovative solutions addressing real-world challenges.

Website Design and deployment June 2023 - September 2023
Navgati Tours *Delhi, India*

- Curated an aesthetically pleasing brand kit for the company from scratch that aligned with their vision, designed the layout, and built a multi-page website with smooth user interactivity

Community & Leadership

President August 2023- Present
Women in Computing Society *Ashoka University*

- Organised the nation's first student-led accessibility and inclusivity tech conference with 200+ registrations, nation-wide and international speakers
- Led and managed a team of 40 members, creating a collaborative and inclusive space and facilitated events like cryptic hunts, workshops, alumni mentorship programs and more for enhancing the CS culture

Lead on Design and Logistics June 2023 - August 2023
RedBrick Hacks *Ashoka University*

- Learned new design software in two months and created majority of the collaterals and led a team of 10.
- Handled the logistics for an event with 200 participants and 400 applications involving but not limited to communication between sub-teams as well as diff university depts and geographically distributed team members

Point of Contact November 2021 – Present
Research Reading Group *WiCS × CS Society, Ashoka University*

- Established the group, managed logistics, student discussions, and paper selection - which facilitated weekly research paper discussions presented by fellow students.

Coursework

Data Structures
Computer Organization System
Probability and Statistics
Theory of Computation
Linear Algebra
Frugal Science (Stanford University)
Introduction to Machine Learning
Computer Networks
Design Practices in CS
Trustworthy AI
Rapid Prototyping and Experimentation
Design and Development of an Accessible CS curriculum
Information Security
Data Science and Management
Design and Analysis of Algorithms
Principles of Science
Mind and Behaviour
Introduction to Critical Thinking
Storytelling in the Digital Age