

NAMAI CHANDRA

DUAL MAJOR ELECTRONIC SYSTEM, PRODUCT DESIGN

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SUMMARY

Bridging the gap between technology and design to bring ideas to life through innovation, with projects and research focused on real world impact. **"Thinking like an engineer and solving like an artist!"**

EDUCATION

Indian Institute of Technology, Madras Bachelor's degree: Electronic Systems, CGPA: 9.03	September 2023 - 2027
Netaji Subhash University Of Technology Bachelor's degree: Product Design, CGPA: 8.61	August 2023 - 2027
Central Board of Secondary Education All India Senior School Certificate Examination, Class 12: 94%	2022-2023
All India Secondary School Examination (AISSE), Class 10: 96%	2020-2021

EXPERIENCES

UC Berkeley; Visiting Student Researcher (Upcoming) • Continuing research at the Morphing Matter Lab, in the domain of morphing mechatronic systems.	January 2027 - May 2027
UC Berkeley Morphing Matter Lab (Prof. Lining Yao) • [Research collaboration] Prototyping of a flying and drilling machine for autonomous seed deployment in inaccessible environments, combining biomimetic mechanics and reforestation research.	September 2025 - Present
HackMIT Winner: Meta Track • Full scholarship Neural Signal Interpretation with hardware prototype driven validation.	July 2026 - September 2026
Max Planck Institute for Intelligent Systems Robotics Institute Germany • Designing and prototyping automated mechatronic systems for reliable handling and testing of biological cells in cancer-related diagnostic workflows as part of CELLnROLL .	May 2026 - August 2026
NASA Space Cloud Watch NLC Vision-Only Pipeline • Developed an end-to-end computer vision pipeline for detecting and classifying Noctilucent Clouds from ground-based imagery; contributed to the ML model used in NASA's Citizen Science observation workflow.	December 2025 - May 2026
University of Cambridge Sound Spatial Localization • Present Researching sound-based spatial localization, developing algorithms to estimate 3D source position from acoustic signals, Via an outlet-based passive sensor approach	January 2025 - Present
EmPACT Lab Nanyang Technological University (NTU) • Focusing on the development of physics-informed neural networks (PINNs) and optimization algorithms to enhance computational efficiency and support reinforcement learning (RL) for humanoid training in MuJoCo.	September 2025 - Present
National First Place, Innovation Premiere League IIT Bombay • Innovating in the field of agriculture, innovating solutions for small-scale farmers through sustainable means to reduce strain injury with onion cultivation, in association with MIT Fab Lab and grounded in real-world.	August 2025 - March 2026
Arizona State University Responsible Innovation Lab • Developed a context-aware personal assistant using along with AI personas and their integration with real-world hardware to enable computer vision to enable empathetic, ethically responsive human-AI interaction.	August 2025 - March 2026
IIT Bombay, e-Yantra Summer Internship • Developed a modular search-and-rescue robot with morphing wheels, integrating ROS 2, LiDAR/RGB-D sensor fusion, SLAM, autonomous navigation, and a 7-DOF manipulator for operation across complex terrain.	May 2025 - July 2025
Samsung Semiconductor R&D • Finished Top 2 in the Chip Design Lab; implemented and validated a pipelined RISC-V CPU microarchitecture with a vector processing unit for convolution workloads targeting a low-power microcontroller.	January 2025 - February 2025
IIT Hyderabad Teaching Assistant: ML in Drone Technologies • Teaching modules to master, PhD and working professionals on Python, Classification Algorithms and Deep Learning with Drone Technology, including implementations of logistic regression, k-NN, SVM, decision trees, neural networks, and drone navigation techniques with visual odometry.	July 2025 - January 2026

IIT Madras (Guide: Prof.Boby George) | Autonomous Wheelchair January 2025 - September 2025

- Developed and debugged an autonomous wheelchair system for the visually impaired, integrating LiDAR and camera through sensor fusion to reduce navigational uncertainty and improve reliable autonomous mobility.

IIT Madras, School Connect Program July 2024 - Present

- Designing and structuring the syllabus for IITM DIY. Empowering 100k+ school students in high school to develop their ESP-based bots, fostering hands-on technological literacy and bridging the digital divide.

IIT Ropar | AgriChat ANNAM.AI July 2025 - November 2025

- Designed and optimized a custom 2 stage LLM using a proprietary Indian agriculture database to deliver accurate, multilingual, context-aware guidance for farmers of India, applying RAG and fallback pipelines.

IIT Bombay, e-Yantra: Eco Mender Bot (Top 7 Internationally) August 2024 - March 2025

- Finished top 7 out of 1200+ teams internationally, implemented a RISC V single cycle CPU on FPGA De0 Nano while running a custom shortest path, obstacle avoidance algorithm. Interfaced with LFR, color and IR sensor and made a custom 2 axis gripper using CAD to ensure hardware compatibility and performance.

ARES CAD Lead - The Rover Society January 2024 - Present

- Lead the rover department in the International Rover Design Challenge, focusing on creating a lunar rover optimized for the moon. Developed CAD and electronics to ensure a functional rover with the suspension.

Head Boy - Student Council: The Millennium School November 2022 - March 2023

- Served as Head Boy, promoting holistic development by encouraging students to participate in diverse competitions and explore their strengths, with introduction of new course subjects in school curriculum.

PUBLICATIONS / PATENTS

1. ActionGround: Training-Free Runtime Refinement of Frozen VLA Policies [IROS 2026]
2. From Sky to Soil: A Morphing Aerial-Ground Robot for Seed Deployment
3. Physics-Informed Policy Optimization via Analytic Dynamics Regularization
4. SDG-Enabled AI Locket: A Power-Efficient Edge RAG Architecture
5. Enhancing Robotic Perception and Adaptability through Sensor Fusion and Origami-Inspired Designs
6. Full Self-Driving Autonomous Wheelchair (in progress)
7. Morphing Terrain-Adaptive Wheel (INDIAN PATENT: 202611100261)

PROJECTS

CanSat / Model Rocketry Competition | Mechatronics & Software

Developed mechanical and software systems for autonomous CanSat deployment, integrating descent control, onboard sensors, telemetry, and rocket CAD into a complete autonomous system.

Mechatronics Design: 3D-Printed Cybertruck with Advanced Motorization and Control Systems

Developed a functional, 3D-printed scaled electric Cybertruck with shock suspension and custom controls

Custom Electric Skateboard for Sustainable Independent Short-Distance Mobility

Developed an energy-efficient electric skateboard designed to replace gas-powered scooters/autos for short commutes. The system includes a custom communication setup between the ESC and display based remote.

Smart Holographic Display for Non-Intrusive, Real-Time Information.

The device attaches to specs to project a non-intrusive hologram displaying useful information such as time and weather. It connects to smartphones for relevant data, providing a seamless, hands-free user experience.

SKILLS

Softwares: Fusion360, Blender, EasyEDA, Final Cut Pro XI, Quartus Prime, LTSpice, MATLAB, MuJoCo

Languages: English, C++, C, Python, Bash Shell Scripting, Verilog

ACHIEVEMENTS

- **NASA Feature** - Work featured on NASA's website, actively used in their observation pipeline.
- **Harvard HPAIR 2026** - Full merit scholarship from 30k+ applicants | Best Delegate | Impact Challenge Winner
- **Guinness World Record 2016 (International)**: Contributed to the largest origami elephant display, advocating against elephant cruelty | Recognized and invited to Japanese Embassy.
- **Samsung R&D and IIIT Bangalore Chip Design Studio** - Finished Top-2. Recognized as the only sophomore
- **Synopsys and IISC Bangalore ISWDP Scholarship** - INDIA Semiconductor Workforce Development Program, 100% scholarship throughout all 4 levels based on my portfolio and projects
- **IIT Madras** - Perfect 10 CGPA in the 1st term, ranking in the top 1% of my batch | Top course grade award.
- **\$3000 Scholarship**: Awarded based on my portfolio for the Advance Deisign Offsite Pro industrial design
- **Merit-Based Scholarships 2021-2023** : Received scholarships in grades 11 and 12 for top performance.
- **Department of Science & Technology Scholarship 2020** (National level): Awarded a scholarship from the Government of India for academic excellence.
- **Top 5 | Eduexcellence Winter Olympiad 2020** (National level): A project on the smart holographic display.
- **Accepted @ Transfer Student, New York University (Class of 2028)**