A.C. KEERTI

B.Tech – Electrical and Electronics Engineering
Gender: Female
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Educational Qualification

Year	Degree/Examination	Institution/Board	CGPA/Percentage
2024-Present	B.Tech- EEE	NIT, Trichy	8.29
2024-Present	BS – Data Science and Application	IITM	8.67
2024	Class XII	Kamala Niketan Montessori School, Cantonment, Tiruchirapalli	96.8%
2022	Class X	Mahatma Gandhi Centenary Vidyalaya, Tennur, Tiruchirapalli	98.4%

Academic Achievements

- **National Standard Examinations (IAPT):** Placed in the **Top 10% of the Centre** in both Physics (NSEP) and Chemistry (NSEC).
- **Indian Olympiad Qualifier in Mathematics (IOQM) 2020:** Secured a rank within the **Top 300** in the Tamil Nadu region.
- **Smart India Hackathon (2022) :** Qualified the initial Screening Level by pitching and developing an **Eco-Friendly Trash Wheel**
- **Currents '20 (NIT Trichy):** Secured **Second Prize** in 'Eureka', the District Level Science Exhibition organized during the National Level Technical Symposium of the EEE Department.
- **Class XII Board Merit:** Secured **School Rank 3** in the Senior School Certificate Examination.
- **Class X Board Merit:** Awarded **School Rank 1** (School Topper) in the Secondary School Examination.
- **AMTI Mathematics Contest:** Qualified as a **Finalist** in the National Level Talent Contest (2018) and recognized among **Top 10% Scorers** in the screening test (2016).

Projects

Solar Tracker System *Sep 2025 - Nov 2025*

- Designed a budget-friendly solar tracking mechanism to optimize photovoltaic panel efficiency.
- Implemented the control logic using **LDR sensors** and comparators to detect maximum light intensity.
- Demonstrated the practical application of digital logic circuits in automating renewable energy systems.

Martian Rover Navigation (Wokwi Simulation) *June 2025*

- **Rover Control**: Built a navigation system using an Arduino where a joystick controls a rover's movement on an 8x8 LED Matrix.
- **Auto-Return Feature:** Programmed the system to record every step into an array, allowing the rover to automatically retrace its path back to the start.
- **Obstacle Detection:** Wrote logic to detect blocked coordinates, preventing the rover from moving into obstacles and triggering a buzzer alert.

Power Electronics & Waveform Design (LTSpice) *June 2025*

- Designed and simulated a **Buck Converter** circuit to demonstrate efficient DC-DC voltage step-down.
- Constructed a **Sawtooth Waveform Generator** using Op-Amps and analysed the output frequency response.
- Validated circuit stability and transient response through simulation in **LTSpice**.

Automatic Emergency Light *Oct 2025*

- Developed an automated emergency lighting system that triggers instantly during power outages.
- Designed the switching circuit using transistors
- Fabricated the prototype to demonstrate reliable backup lighting for household safety.

Technical Skills and Certifications

- Programming Languages : C, Python
- Engineering Software : Matlab, LTSpice, PSCAD
- Other Software : Microsoft Word, PowerPoint, Excel, Microsoft Clipchamp
- Certifications :
  Foundation Level in Data Science (IIT Madras BS Program):
    - Certified for proficiency in Mathematics, Statistics, and Python Programming.

Positions of Responsibility

- **Hardware Coordinator, Nakshatra - NIT Trichy** *July 2025 - Present*
  Worked on various technical projects
- **Physics Mentor, IGNITTE - NIT Trichy** *March 2025 - Present*
  Mentored students from government schools to prepare them for competitive entrance examinations.
  Promoted to Manager for good performance
- **Manager, Festember Public Relations (FPR) - NIT Trichy** *December 2025 – Present*
  Responsible for handling PR desk and smooth flow of transport and accommodation.
- **Coordinator, Currents (Guest Lectures & Workshops)** *January 2026 – Present*
  Guest Lectures: Invite industry experts to give technical talks and handle their travel and stay arrangements.
  Workshops: Organize hands-on training sessions for students and ensure all necessary equipment is ready.

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Extracurricular Activities

Leadership & Wellness:

- **Creative Leadership:** Completed the "Creative and Communicative Leadership" program by **Kruu (Rhapsody PLUS)**, securing a spot in the **Merit Class** for project excellence.

- **Public Speaking:** Secured **First Prize** in the Elocution Competition (English) organized by the **Centre for Nehru Studies, Bharathidasan University** (2019).

- **NSO Cycling Rally:** Participated in a campus-wide **Drug Awareness Cycling Campaign** organized by the National Sports Organization (NSO) to promote a substance-free lifestyle.

Cultural & Technical:

- **Classical Vocal:** Completed **Grade III Vocal Examination** with **Distinction** from Annamalai University (2018).

- **IAAC 2020:** Qualified for the pre-final round of the International Astronomy and Astrophysics Competition and received a Special Honour for digital submission.