

VINAYAK SABU

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EDUCATION

- B.Tech in Electrical and Electronics Engineering,
Government Engineering College Idukki June 2028
- Bachelor of Science: Data Science and Applications,
Indian Institute of Technology Madras June 2030
- Higher Secondary,
SMV Higher Secondary School August 2023

PROJECTS

- **FEUGO - Vehicle Design & Fabrication|Core Electrical, Systems Integration** October 2025
 - Spearheaded the **electrical system design** for a custom petrol-powered vehicle, **successfully engineering** the wiring harness, power distribution, and battery integration from scratch.
 - Collaborated with a multidisciplinary mechanical team to execute seamless system integration and rigorous on-field testing, ensuring **100% compliance** with operational safety standards.
- **Wireless RF Walkie-Talkie | Circuit Design, RF Modules, Signal Processing** November 2025
 - Designed and implemented a **stable two-way** wireless communication hardware device leveraging localized **RF modules**
 - Executed extensive range testing, circuit optimization, and noise-reduction protocols, achieving clear, **real-time audio transmission** over a range of **150 meters** with minimal signal degradation.
- **AI Voice Summarizer | Python, Natural Language Processing (NLP)** January 2026
 - Engineered an automated speech-to-text summarization tool utilizing **Python and advanced NLP libraries** to extract key information from raw audio inputs.
 - **Optimized text-generation algorithms** to produce high-fidelity, concise summaries, decreasing manual note-taking time for end-users by **20%**.
- **Smart Hostel Management App (El Hostel) | JavaScript, HTML, CSS, Firebase** December 2024
 - Developed a comprehensive **full-stack** management system to streamline room allocation, user authentication, and complaint resolution for hostel administration
 - Engineered a responsive user interface and integrated backend databases, **reducing manual administrative processing time** by an estimated **75%** and improving student-admin communication.
- **Smart Convertible Wheelchair (Leap Project) | Mechanical Design, Electrical Integration** December 2025
 - **Co-engineered** a multifunctional assistive mobility device featuring a seamless wheelchair-to-bed transformation mechanism.
 - Executed the electrical system integration and ergonomic design protocols, improving user comfort and operational safety for mobility-impaired individuals.

EXPERIENCE

- **Web Designer & Social Media Associate, Eldopas LLC, Remote** January 2024 –April 2026
 - Spearheaded website development and **SEO** optimization utilizing WordPress, driving a **50%** increase in organic web traffic.
 - Executed data-driven content strategies and designed targeted marketing creatives, boosting **social media engagement by 60%**
 - Analyzed digital performance metrics to refine campaigns, resulting in a **45%** improvement in user retention / click-through rates.

LEADERSHIP & VOLUNTEERING

- **Vice Chairperson | IEEE Student Branch - GEC Idukki** March 2026 – Present
 - Directed and organized technical events and workshops, successfully increasing student participation in engineering initiatives by **75%**.
- **Secretary| IEEE PES Student Branch Council - GEC Idukki** March 2025 –March 2026
 - Facilitated chapter operations and coordinated specialized technical workshops focused on power and energy systems for **500+** active members and **1000+** Students
- **Campus Ambassador | IEEE Xtreme (19.0 & 20.0), IEEE Day (2025), IEEE PES Day (2025, 2026)** March 2025 –March 2026
 - Promoted global coding competitions and engineering events across campus, successfully driving **350+** student registrations and building competitive multidisciplinary teams.

ACHIEVEMENTS

- **Global Rank 146 & AIR 20 (University Rank 1): IEEE Xtreme 18.0 Global Coding Challenge out of 19000+ competing teams worldwide** (2024). October 2024

TECHNICAL SKILLS

- Programming: C, C++, Python, JavaScript
- Data Science: Pandas, NumPy, Matplotlib, Scikit-learn, SQL
- Tools & Platforms: Firebase, Google Analytics, WordPress
- Electronics: Circuit Design, Digital Logic,Basic Embedded Systems
- Design & Media: Adobe Photoshop, After Effects, DaVinci Resolve, CapCut