VEDANT SINGH

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Education

Delhi Technological University	**August 2023 – Expected May 2027**
Bachelor of Technology in Mechanical Engineering (GPA: 7.8/10.00)	*Delhi*
JEE Main	**2023**
Secured 97+ percentile (AIR: 34,523) out of approximately 1.2 million candidates	*India*
St. Peter's Inter College XII	**2022**
Council for the Indian School Certificate Examination (Percentage: 96.0%)	*Uttar Pradesh*

Work Experience

JEE ELEVATE | Founding Tech Lead   **June 2024 – January 2025**

- Served as Tech Lead during the early development and launch phase of **JEE ELEVATE**, contributing to the technical architecture, product design, and team coordination.
- Architected and implemented the MVP platform from scratch, achieving stable, zero-downtime performance for 200+ initial users.
- Architected scalable backend systems enabling seamless onboarding and early growth.
- Enabled startup registration and aligned engineering execution with strategic product milestones.
- **Certificate:** *Certificate of Acknowledgement – Startup Technical Partner*

Technical Projects

Autonomous Ground Vehicle for IGVC 2025, USA | Repository   **June 2025**

- Led the complete software stack development and electronic integration for navigation challenge, achieving **95%** waypoint accuracy and reducing navigation latency by **45%** through optimized path planning algorithms.
- Orchestrated multi-sensor integration (LiDAR, GPS-RTK, 3D Cameras) and real-time perception modules while collaborating on electronics system design, improving obstacle detection accuracy by **30%**, reducing communication delays by **35%**, and minimizing power losses by **20%**.

Rover for ICMTC-8, Egypt | Repository   **July 2024**

- Spearheaded sensor fusion algorithm development integrating GPS, IMU, and LiDAR data, improving navigational accuracy by **30%** and reducing drift errors to under 2 degrees on average.
- Engineered and optimized a high-performance, low-latency data pipeline for real-time sensor integration (LiDAR, GPS, encoder, and vision); achieved a **40%** reduction in end-to-end data processing latency and improved system responsiveness by **25%**, enabling faster and more accurate obstacle avoidance.

Achievements and Awards

- **4th Place Overall, 1st in Presentation Category – ICMTC-8, Egypt (July 2024)**
  - ∗ Represented India, placing among top global teams at a military competition
- **Top 15 Global Rank – IGVC 2025, Michigan, USA (June 2025)**
  - ∗ Placed in the top 15 globally at IGVC 2025, excelling in the Auto-Nav challenge.

Positions of Responsibility

Team Manager, UGV-DTU   **May 2025 – Present**

Faculty Advisor: Prof. Indu Sreedevi

- Lead a 30+ member multidisciplinary team, driving project vision, strategy, and cross-functional coordination.

Software Head, UGV-DTU   **June 2024 – May 2025**

Faculty Advisor: Prof. Indu Sreedevi

- Led a 15+ member software team, delivering scalable autonomy stacks with 95% on-time feature delivery.

Technical & Soft Skills

Languages: C, C++, Python, Go, JavaScript, Dart, C#, SQL

Web & Backend: HTML, CSS, React.js, Node.js, Express.js, MongoDB

Robotics & Embedded: ROS/ROS2, Linux, Bash, Arduino, STM32, RTK-GPS (ZED-F9P)

Simulation & Tools: Raylib, SDL2, CMake, Git, Docker, Ubuntu

Soft Skills: Leadership, Technical Communication, Cross-functional Collaboration