

# Yash Vardhan

B.E Mechanical Engineering  
CSE Minor  
TIET, Patiala

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## 1 EDUCATION

Degree	Institution	CGPA/Percentage	Year
B.E.	Thapar Institute of Engineering & Technology, Patiala	8.06 (Current)	2021-Present
CBSE Class XII	Veena Vidya Niketan, Patna	86.4%	2020
CBSE Class X	Saint John's Academy, Hajipur	87%	2018

## 2 INTERNSHIP

**Research Intern — DRDO Terminal Ballistics Research Laboratory** Jun 2024 - Jul 2024

- Conducted research on explosive welding process, comparing theoretical results with trial outcomes.
- Learned prototypes development using 3D printing, SolidWorks, and 3D printing slicing software.
- Mastered industrial mechanical engineering processes, including additive manufacturing, CNC machining.

## 3 POSITIONS OF RESPONSIBILITY

**Structures & Chassis Head — Team Ultron Motorsports** Dec 2022 - Present

- Designed space-frame chassis for four-wheel drive ATV, involving modelling, analysis and optimization.
- Led chassis team reduced development time by approximately 50% to complete within 6 months.
- Formulated collaborative designing plan using Gantt chart for all departments, cutting design conflicts by 90%.
- Improved team's competition points with switching to innovative four-wheel drive design by 30%.
- Optimized ATV specification for SEA Baja and other competitions

**Project Design Head — Concept Electrical Vehicle Designing** Nov 2022 - Sept 2023

- Designed vehicle body, resolving critical design problems and improving vehicle energy efficiency, by around 30%, by reducing body & battery weight and increasing aerodynamic efficiency using FEA & CFD anlysis.
- Implemented Gantt chart project planning to manage and reduce project timeline.
- Established partnerships with suppliers, reducing expected costs by 50%, and securing project funding from college.

## 4 PERSONAL & ACADEMIC PROJECTS

- Mechanical Design Project:** designing & manufacturing of hybrid of fixed wing drone and hovercraft for flying, any terrain or water travel capability for emergency response and surveillance
- Web Dev Projects:** HTML-CSS based: Portfolio Website; React-based: Project Management App; Chrome Extensions: Text-Encryption-Decryption, Website-locker; MERN-based: Library-Management
- ML Project:** Stock Price Prediction using LSTM neural network model for time series stock price forecasting; Multi-Terrain Classification for Legged Robots Using Ensemble Machine Learning Techniques
- Data Analytics Project:** decision making analysis involving data collection, cleaning, analysis & visualization, A/B testing & regression analysis to compare between marketing strategies
- Freelancing:** Virtual Assistant: 2+ years for US-based digital marketing firm

## 5 ACADEMIC ACHIEVEMENTS

- Earned a merit-based scholarship for ranking in the top 10 % of JEE Mains scorers, during college admissions.
- Received team participation certificate with Team Ultron Motorsports for Arravali Terrain Vehicle Championship 2024.
- Leading 2 research and development projects under faculty supervision: developing a Portable DSO and innovating Waste Wrapper as Fuel for Water Desalination.
- Advanced to Design Round of Shell Eco-Marathon 2022, presenting innovative EV Urban Concept Vehicle.
- Achieved state-level qualification in International Math Olympiad for 2 consecutive years.

## 6 EXTRACURRICULAR ACTIVITIES

- Led community outreach initiatives with Team Neki, Hajipur, organizing social and charitable events.
- Secured top positions in inter-school chess and art competitions, representing junior school.

## 7 SKILLS

**Mechanical:** Designing, CAD Modelling, Simulations, FEM & CFD Analysis, Engineering Drawing, Manufacturing, CAM, Automation & Robotics

**CSE:** Basic Web Development, Extensions Development, Basic AI & ML

**Analytical:** Data Analytics, Finance & Business Analytics, Statistics

**Soft Skills:** Project Management (Leadership, Project Planning, Attention to Detail), Communication (Collaboration, Emotional Intelligence, Conflict Resolution), Problem-Solving (Creativity, Resourcefulness, Decision-Making)

## 8 SOFTWARES & PROGRAMMING LANGUAGES

Autodesk Fusion 360 | SolidWorks | Ansys | Autodesk CFD Ultimate | CREO Parametric | Autodesk AutoCAD | Matlab | Python | C | C++ | HTML | CSS | JavaScript | React | Express | Node.js | MongoDB | SQL | Excel | Tableau | Power BI | GitHub | Streamlit | Visual Studio Code | Jupyter Notebook | Google Colab | Notion | Adobe Photoshop | LaTeX