



Aryan Tandon

B.Tech - Materials Engineering
Indian Institute of Technology (IIT), Delhi

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EDUCATION

Degree/Certificate	Institute/Board	CGPA/Percentage	Year
B.Tech. Major	Indian Institute of Technology (IIT), Delhi	8.67	2023- <i>Present</i>
Senior Secondary	Central Board of Secondary Education(CBSE)	94.4%	2023
Secondary	Central Board of Secondary Education(CBSE)	96.6%	2021

ACHIEVEMENTS

- **Department Rank 3**, Amongst, **40 students** in the department of Materials Science and Engineering *2025*
- **Rhapsody CAD Ideathon**, Secured overall rank 3 in national ideathon organised by IISc,Bangalore *2025*
- **Best Executive**, by Materials Sc.& Engg. Soc.(MSES) for efforts to the development of the department *2025*
- **Letter of Recommendation**, Rewarded for exceptional academic performance by Prof. Vikrant Karra, IITD *2024*
- **JEE Advanced**, Secured **AIR 3209** among **0.18 million** candidates appearing for the test *2023*
- **JEE Mains**, Secured **99.9 percentile** among **1.11 million** candidates appearing for the test *2023*

INTERNSHIPS

- **Indian Institute of Science (IISc), Bangalore** | *Prof. Praveen Kumar* *May 2025 - Jul. 2025*
 - Development of UV-DIC(Digital Image Correlation) techniques to study deformation at very high temperatures(1500°C)
 - Obtained strain fields at interface of TBC coated Haynes alloy during delamination due to rapid laser heating
 - Detected deformation fields in C/SiC composites specimens under isothermal tensile stresses at high temperatures

PROJECTS

- **Mechanical properties simulation of AM Stainless Steel** | *Prof. Ayan Bhowmik* *Aug 2025 - Present*
 - Simulated mechanical properties of 316L Stainless Steel produced by LPBF additive manufacturing using DAMASK
 - Generated an accurate visualisation of the microstructure of the specimen from EBSD images in DREAM.3D
 - Validated model predictions against experimental data, achieving high agreement.
- **Strengthening of nanograined Fe-Ni alloy** | *Prof. Sangeeta Santra* *Mar 2025 - Apr 2025*
 - Presented results on ultrahigh yield strength of 1677MPa in nanograined Fe-Ni alloys with D024 nanoprecipitates
 - Visualized how D024 nanoprecipitates at grain boundaries inhibit dislocation emission and boundary migration
 - Communicated complex research outcomes and their implications for alloy design and strengthening mechanisms
- **AI-ML Based Parameter Identification in Elasticity** | *Prof. Rajdip Nayek* *Oct. 2024 - Nov. 2024*
 - Derived governing stress-strain and displacement relations, implementing Navier's equation for 2D elasticity.
 - Applied polynomial regression ($R^2 = 0.95-0.99$) and optimization techniques to estimate Lamé's constants
 - Conducted Python simulations to visualize stress field distributions, validating model predictions across datasets.
- **Ball Balancing Robot** | *Summer Project at Robotics Club IITD* *Jul, 2024 - Sep, 2024*
 - Achieved ball balancing on a platform by developing a 3RRS parallel manipulator, verified through a prototype
 - Led the full R&D cycle from CAD in Fusion 360 to fabrication and implementation with robust system integration
 - Integrated a PID control algorithm with inverse kinematics, enabling manipulator motion for ball stabilization

SKILLS

- **Software and Programming:** Fusion 360, Solidworks, ANSYS, MATLAB, Python, Quantum Espresso
- **Material Science:** Digital Image Correlation(DIC)-ViC2D, SEM, XRD, DAMASK
- **Data Analysis:** Regression Models, Image Processing- ImageJ, data analysis- OriginPro

KEY COURSES TAKEN

- **Mathematics:** Calculus, Linear Algebra & Differential Equations, Numeric Methods & Computation
- **Material Science:** Structure of Materials, Phase Transformations and Equilibria, Characterisation of Materials, Materials Modelling*, Mechanical Behaviour of Materials* ** To be completed by December*

POSITIONS OF RESPONSIBILITY

- **Technical Secretary**, Girnar House, IIT Delhi *May 2025 - Present*
 - Responsible for inculcating a tech-savvy ecosystem in the hostel community by active participation in events.
- **Event Coordinator**, Material Science and Engineering Society *May 2025 - Present*
 - Organise and manage events catering to the material science community and spreading awareness of this field
- **Core Executive**, Robotics Club, IIT Delhi *Jan. 2024 - Aug. 2025*
 - Conducted several workshops on Obstacle Avoidance Robots in campus community. Mentored various projects.

EXTRACURRICULARS

- **Technical General Championship**, Helped hostel secure first place in inter-hostel hackathon. *Mar 2025*
- **IITD Cricket Team**, Part of the institute cricket team for Sportech 2025, sports fest *Mar 2025*
- **Exhibition Presenter**, Represented Robotics Club in the IIT Delhi's Annual Open House Exhibition *Nov 2024*