

# PRATIK WAGHELA

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**MECHANICAL ENGINEER | R&D | DESIGN | AEROSPACE | MAINTENANCE & REPAIR**

A highly creative yet analytical mechanical graduate with trusted knowledge of research and design within the aerospace field. Meticulous and organised in the leadership and completion of innovative projects, the preparation of technical documents and deep-dive analysis. A resolute decision-maker and advanced mathematician with a proven track record of employing best practices that quickly solve problems and answer complex questions. Leads teams with a hands-on style, collaboratively monitoring compliant work practices and knowledge sharing to improve safety, modernise operational systems, and improve working conditions.

## AREAS OF EXPERTISE

3D & 2D Design Modelling | Engines & Hydraulic Pumps | Aerospace Research & Development | Product Design  
Automotive Maintenance & Analysis | Cost Estimation & Tenders Documentation  
Manufacturing Processes Quality Check | Welding Inspection  
Oil & Gas Energy | Refrigeration & Air Conditioning

## KEY COMPETENCIES

- **Communication:** operates smoothly within diverse teams and functions by developing trusted working relationships using excellent verbal and interpersonal communication skills with a professional demeanour.
- **Organisational skills:** Highly developed analytical problem-solving and mathematic skills combined with the natural ability to formulate progressive, systematic approaches to research and design that create value.
- **Commercially astute:** stays on-trend with aerospace engineering and tech industry information and materials, focusing on practices and technology news to future-proof working methods.

## CAREER HISTORY

### AIRBOTS AEROSPACE PRIVATE LIMITED

*An Indian Agri-tech startup aimed at developing equipment and providing services for intelligent agriculture.*

**Design and Analysis Engineer**

**Mumbai, India | June 2022 – Present**

- **Develop mechanical structures for Surya Shakti 16 drone** on Seimens NX and Solidworks.
- **Design and testing test stand for propeller system and analyse on Ansys.**
- **Purchase parts, prepare bill of materials, request quotation** and collaborate with manufacturers.

### CHEGG

*An American education technology company based in Santa Clara, California. It provides digital and physical textbook rentals, textbooks, online tutoring, and other student services.*

**Subject Matter Expert**

**Mumbai, India | April 2021 - Present**

Offer subject knowledge and guidance in mechanical domains to solve doubts, resolve technical queries and answer international questions. Prepare detailed solutions, graphs, charts, technical diagrams and engineering calculations.

- **Successfully supplied over 2000 accurate solutions**, including solving 350+ problems in just 30 days.
- **Became a Certified International Solution Expert.**
- **Consistently achieve a 100% CF score** for structured and accurate solutions.

### ABYOM SPACE TECH & DEFENCE PVT LTD

*The first officially recognised space startup with a vision to make India's space sector fully reusable and save earth from space debris.*

**Scientific Research Trainee**

**Mumbai, India | Jun 2021 – Sep 2021**

Managed and prioritised R&D department tasks as a team lead. Crafted project reports and documentation for the thesis. Researched and analysed part and assembly design using 3D SOLIDWORKS, ANSYS-FEA, and OPEN ROCKET. Delivered aerospace composite material fatigue and stress analysis with flight dynamics.

- **Published a research paper on Numerical and Computational Analysis** of Two-Stage Sounding Rocket in the International Journal of Science and Technology.
- **Promoted as a Project Team Leader** to assign tasks and oversee 3 research team members.
- **Designed a cost-effective rocket design** of just 1-meter length to reach 7120 meters altitude.

**OIL & NATURAL GAS COOPERATION**

*The largest producer of crude oil and natural gas in India, contributing 70 per cent of domestic production.*

**Assistant Executive Engineer**

**India | November 2019 – October 2020**

Monitored pipeline projects in Assam, performed site inspection and managed 3 crew members with contractors. Executed hydro tests and created detailed project reports. Tested pipelines components after installation.

- **Effectively designed pipeline layouts** to align closely to project needs.
- **Facilitated kick off meetings with clients** to gather requirements and set expectations.
- **Successfully detected natural gas leakages** from pipelines and quickly rectified the defects.

**INDIAN OIL COOPERATION**

*An Indian government-owned oil and gas explorer and producer.*

**Grade A Officer**

**Chennai, India | Sep 2019 – Nov 2019**

Supervised pipelines, mechanical equipment and oil manufacturing processes, ensuring fuel quality and maintaining compliance. Organized survey reports and campaign presentations, and SAP MM Modules updates.

- **Drove increased levels of customer satisfaction** by interacting with customers at retail oil outlets.
- **Drafted successful tender documents** from notice inviting tender to being awarded contract.

**NATIONAL SKILL TRAINING INSTITUTE**

*One of the premier institutes run by the Directorate General of Training (DGT), Ministry of Skill Development and Entrepreneurship, Govt. of India.*

**Intern**

**India | February 2019 – March 2019**

Assisted with the maintenance, repair and overhauling of petrol and diesel engines. Installed automotive part assembly and carried out maintenance and repair.

- **Successfully troubleshot and prosecuted root cause analysis** of rotary and reciprocating pumps.
- **Examined surface defects by performing NDT** welding tests using ISO standards.

**PROFESSIONAL MEMBERSHIPS & TRAINING****INDO-GERMAN TOOL ROOM**

**Professional Industrial Training**

**Mumbai & Aurangabad, India | Jun 2018 – Dec 2018**

Prepared BOM and component part assembly reports and analysed machine design components on **ANSYS Workbench**. Completed 2D and 3D Part modelling on **SOLIDWORKS, CATIA, PTC CREO, SOLID EDGE, UG CAM, UG CAD and AUTOCAD**. Read and prepared blueprints, technical drawings and part assembly sheets. Performed CNC Coding on FANUC software. Prepared sheet metal assemblies and tolerance and dimension sheets.

- **Gained a quick understanding of the rules** and regulation code of GD&T.
- **Delivered a key Project on EOT Hook Crane Design and Analysis** and earned 1<sup>st</sup> Class Grades.

**EDUCATION**

Bachelor's in Mechanical Engineering, University of Mumbai, Mumbai

2014 – 2018

- **Gold Medalist** in Mechanical Engineering.
- **Academic Excellence Certificates** for scoring 10/10 pointers.
- **GATE Mechanical Examination, India** – 99.39%, 1026 All India Rank.

**SKILLS**

**Languages:** English - Business, Hindi – Native, Gujarati - Native, Japanese - Intermediate (Pursuing N3)

**Skills:** MS Office, SOLIDWORKS, CATIA, PTC Creo, AutoCad, ANSYS, UG NX CAD, UG NX CAM, Solid Edge.