

# ROHIT SINGH

## SUMMARY

Dedicated and skilled Mechanical Engineer with a strong foundation in manufacturing processes, materials characterization techniques, and material testing. Proficient in advanced manufacturing processes and adept at evaluating and selecting appropriate materials to ensure optimal performance and longevity of products. Experienced in ensuring materials and products meet rigorous quality and safety standards. Committed to continuous learning and staying current with industry advancements to deliver innovative solutions and maintain a competitive edge.

## EXPERIENCE

**Executive Technical Trainee**, (07/2018 - 01/2019)

**Aarti Steel Ltd., Cuttack - Cuttack, India**

- Designed equipment to aid repair or maintenance of machines, mechanical equipment or building structures.
- Implemented preventive maintenance practices and upheld equipment guidelines to avoid failures.
- Analyzed test results from diagnostic tests conducted on machines or equipment.

**Post Doctoral Fellow**, (09/2023- till date)

**Indian Institute of Technology, Bombay**

- Metal additive manufacturing
- Multi material fabrication through WAAM



## CONTACT

### Address:

Advanced Manufacturing Processes Lab  
Department of Mechanical Engineering  
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+91-8360609712

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## SKILLS

- Ansys workbench
- Solidworks
- Materials characterizations (SEM, XRD, EBSD)
- Materials Testing (tensile, fatigue, corrosion)
- Manufacturing process (Machining, sintering, welding, forming)
- Additive manufacturing

## EDUCATION

- **Doctor of Philosophy**, (12/2019-09/2023)  
Department of Mechanical and Industrial Engineering,  
**Indian Institute of Technology, Roorkee**  
GPA: 8.42
- **Master of Technology**, (05/2016 - 07/2018)  
Department of Mechanical Engineering,  
**National Institute of Technology, Rourkela**  
GPA: 8.30
- **Bachelor of Technology**, (05/2010 - 07/2014)  
Department of Mechanical Engineering,  
**Institute of Engineering Technology, Bhaddal**  
Percentage: 75.2

## PATENT

- Cutting tool insert and method of fabrication cutting tool insert, 2 Sept. 2022, 202211050331, Varun Sharma, Rohit Singh

## JOURNAL PUBLICATIONS

- Microstructural characteristics and mechanical behaviour of microwave-assisted sintered novel WC-Co ceramic based internally cooled turning tool, Rohit Singh, Varun Sharma, Pulak M. Pandey, 4.53, <https://doi.org/10.1016/j.matchar.2023.112855>
- Numerical modelling of residual stresses during orthogonal cutting of Ti6Al4V using internally cooled cutting inserts., Rohit Singh and Varun Sharma, 5.684, <https://doi.org/10.1016/j.jmapro.2021.03.042>
- Nano tungsten carbide interactions and mechanical behaviour during sintering: A molecular dynamics study, Rohit Singh and Varun Sharma, 3.578, <https://doi.org/10.1016/j.commatsci.2021.110653>
- Experimental investigation for cutting performance of cemented carbide cutting insert developed through microwave sintering, Rohit Singh and Varun Sharma, 4.804, <https://doi.org/10.1016/j.ijrmhm.2022.105867>
- CFD based study of fluid flow and heat transfer effect for novel turning tool configured with internal cooling channel., Rohit Singh and Varun Sharma, 5.684, <https://doi.org/10.1016/j.jmapro.2021.10.063>
- Investigations on sintering mechanism of nano tungsten carbide powder based on molecular dynamics simulation and experimental validation, Rohit Singh and Varun Sharma, 4.969, <https://doi.org/10.1016/j.apm.2022.103724>
- Molecular dynamics study of tensile behaviour for cold and linear friction welded single crystal tungsten, Rohit Singh and Varun Sharma, 2.942, <https://doi.org/10.1016/j.jmngm.2020.107655>
- Single-crystal Al Cu50Zr50 metallic glass cold welds: tensile and creep behaviour, Rohit Singh, Pradeep Gupta and Natraj Yedla, 2.346, <https://doi.org/10.1080/08927022.2019.1661411>

## INTERNATIONAL CONFERENCE

- Experimental investigation and analytical model validation of residual stress behaviour of ti6al4v during internally cooled turning, 19th CIRP Conference on Modeling of Machining Operations, Karlsruhe, Germany
- Effect of binder on tool wear in case of microwave sintered cutting tool during machining of Ti-alloys, MATHED-2022, International Conference on Emerging Aspects of Manufacturing, Thermal and Design Engineering, NIT Hamirpur

## INTERNSHIP

- Bhabha Atomic Research Centre (BARC), Mumbai, Automated Ion Chamber Calibration System Using Ir-192 Isotope
- JVR Forging Ltd., Punjab, Six week

## WORKSHOPS SEMINARS

- One day workshop of CRDi Technology (medhavi centre for automotive research)
- National seminar on challenges and innovation in mechanical engineering (CIME2013)
- Two days' workshop on robotics ROBOTRYST (IIT-KHRAGPUR)
- Attended International Symposium on "Accelerated Materials Design and Additive Manufacturing: Scientific and Technological Perspectives (AMDAM)" Presented poster.
- Additive manufacturing: Principle, technologies & applications course

## HOBBIES AND INTERESTS

- Playing Football (member, 2008-2010,zonal u-19 football tournament )
- Painting
- Listening music

## LANGUAGES

- English
- Hindi
- Punjabi

## REFERENCES

- Dr. Varun Sharma, Assistant Professor, Department of Mechanical and Industrial Engineering, Indian Institute of Technology, Roorkee, Roorkee (247667), Uttarakhand, India, Mobile no. -+91-9990912264, Email id- [varun.sharma@me.iitr.ac.in](mailto:varun.sharma@me.iitr.ac.in)
- Dr. Arun kumar Rai, Scientific Officer (G), Laser Development and Industrial Application Division, Raja Ramanna Centre for Advanced Technology, Indore 452013, India, Mobile no. -07312442312 Email id- [akrai@rrcat.gov.in](mailto:akrai@rrcat.gov.in)