Pawar Karan Ankush Sangita **183100084**
Mechanical Engineering **M.Tech.**
Indian Institute of Technology Bombay **Male**
Specialization: Manufacturing Engineering **DOB: 05-02-1996**

Examination	University	Institute	Year	CPI / %
Post Graduation	IIT Bombay	IIT Bombay	2020	0.00
Undergraduate Specialization : Mechanical Engineering				
Graduation	University of Mumbai	Bharati Vidyapeeth College of Engineering, Navi Mumbai	2017	8.51
Diploma	Maharashtra State Board of Technical Education	M.H. Saboo Siddik Polytechnic	2014	77.37
Matriculation	Maharashtra State Board of Secondary Education	Ahilya Vidya Mandir	2011	93.64

SCHOLASTIC ACHIEVEMENTS

- Secured 95.92 percentile in GATE 2018 amongst 1.94 lacs examinees
- Graduated with first-class with distinction in Mechanical Engineering from University of Mumbai

THESIS AND SEMINAR

MASTER'S THESIS | Experimental analysis of Micro-milling in the ECDM Process Jun'19-Present

- Fabricated deep micro-features in the glass substrate with a low-cost mild steel sheet (350 µm thick)
- Optimized machining parameters to obtain micro-channel with a **high aspect ratio of 1.51** in the ECDM
- Validated the experimental results with simulation and analyzed the **graphical variation**
- **Future Plan-** Micro-milling with **multi-tip array tool** with the ECDM process
  Tool wear analysis in the ECDM process with optical and weight loss method

MASTER'S SEMINAR | Micro-machining through the ECDM on ceramic materials Jan'19-May'19

- Reviewed literature for understanding the principle and mechanism of the ECDM process
- Applied this principle for the fabrication of micro-features on non-conductive material (Soda-lime glass)
- Performed comparative study between **machining parameters** that affect the ECDM process

B.E. THESIS | Multipurpose manually operated sprayer and fertilizer throwing machine Jul'16-May'17

- Reviewed literature for understanding the design of fertilizer spraying
- Designed five concept models and applied Weighted Ranking Method to finalize the concept
- Analyzed the frame in Ansys workbench 16.2
- Fabricated a fertilizer spraying machine eliminating the muscular problems associated with a backpack sprayer
- Obtained an average flow rate of 1.0375 liters per hour

DIPLOMA PROJECT | Cost-effective All-Terrain Vehicle (ATV) Jul'13-May'14

- Reviewed literature for studying the design of ATV
- Fabricated a cost-effective All-Terrain Vehicle (ATV)

KEY COURSE PROJECTS

Laser Materials Processing | Surface Hardening by Laser | Prof. Ramesh Singh Jan'19-May'19

- Hardened the surface of Titanium using fiber laser (Ytterbium Laser System YLS-3000)
- Performed wire-EDM for sample cutting
- Measured surface hardness with Vickers Hardness Testing and analyzed the graphical variation

Rapid Product Development | 3D printing for medical applications | Prof. K P Karunakaran Jul'18-Dec'18

- Reviewed literature for additive manufacturing in medical applications

Advanced Manufacturing Process | Hotspot Detection in Casting | Prof. B Ravi Jul'18-Dec'18

- Simulated steel component using AutoCAST to analyze hotspot region
- Optimized gating system and validated the simulated results with analytical calculations

Manufacturing Planning and Control | Case study- Consumer Durables | Prof. Subash Babu Jul'18-Dec'18

- Analyzed the factors influencing the respondents in the choice of consumer durables
- Studied the level of consumer awareness of the respondents using statistical tools

ELECTIVE COURSES UNDERTAKEN

- Finite Element Methods
- Laser Materials Processing
- Rapid Product Development
- Manufacturing Planning and Control
- Computer Integrated Manufacturing
- Design for Manufacturing
- Processing of Aerospace Materials
- Advanced Stereology and Microstructural Analysis

POSITION OF RESPONSIBILITY

Teaching Assistant in ME 374 | Manufacturing Process Lab Jul'19-Present

- Conducted lab sessions, report evaluation and viva voce of B.Tech. students
- Guided students to make them familiar with the ECDM setup and to perform micro-milling on the glass substrate

Batch representative | 3rd and final year B.E. (Mechanical Engineering) Jul'15-May'17

- Coordinated with professors and students for smooth conduction of the courses
- Represented views of my peers, took decisions on their behalf and resolved issues faced by the students

EXTRACURRICULAR ACTIVITIES

- **Won** a national project competition cum exhibition, **TechnoFest 2014** supported by MSBTE
- Participated in a project competition **TECH ERA 2014** conducted by A.I's A R Kalsekar Polytechnic
- Successfully completed a workshop on **Automobile Mechanics and Advanced Technologies** by **All on Auto** in association with IIT Kanpur Techkriti'15 and Student Motorsports UK

TECHNICAL SKILLS

CAD/ CAM packages: AutoCAD, SolidWorks
FEA/ Simulation packages: COMSOL, AutoCAST, ANSYS
Programming: MATLAB, Python, FANUC CNC programming

HOBBIES

Trekking