

# GAJENDRA SINGH

M.Tech (NIT Arunachal Pradesh) | Former Design Engineer (Temsens Instruments)

Contact number: +91 9529614894, 8963878371

Email ID: gajendra.kashyap7@gmail.com, [gajendra.mtech@nitap.ac.in](mailto:gajendra.mtech@nitap.ac.in)

LinkedIn Profile: <https://www.linkedin.com/in/gajendrasingh1995/>

## EDUCATION

YEAR	QUALIFICATION	COLLEGE/SCHOOL	UNIVERSITY/BOARD	SPECIAL SUBJECTS	CGPA / %AGE
2018-20	Master of Technology (M.Tech)	NIT, Arunachal Pradesh	NIT, Arunachal Pradesh	MSDIT (Fluid & Thermal)	9.03 /10
2012-16	Bachelor of Technology (B.Tech)	Maharaja College of Engineering, Udaipur	Rajasthan Technical University, Kota	Mechanical Engineering	75.2 % (Honors)
2012	Senior Secondary Examination	Govt. Sen. Sec. School, Karauli	Rajasthan Board of Secondary Education, Ajmer	Science & Mathematics (PCM)	70.8 % (79% in PCM)
2010	Secondary Examination	Govt. Sen. Sec. School, Jaipur	Rajasthan Board of Secondary Education, Ajmer	General Schooling	78.67 %

## TECHNICAL QUALIFICATION

- ❖ Qualified Graduate Aptitude Test in Engineering (GATE) 2017 with 91.8976%
- ❖ COMSOL, OpenFOAM, Ansys, SolidWorks, AutoCAD 2D & 3D.

## WORK EXPERIENCE

- ❖ *Company:* Temsens Instruments (I) Pvt. Ltd, Udaipur

*Duration:* June 2017 to July 2018

*Designation:* Mechanical Design Engineer

*Job Responsibilities:*

- *Designing of customized Industrial Furnaces (like Sintering Furnace, Chamber Furnace, Box Furnace, Electric conveyer Mesh Belt Furnace, PIT Furnace, Electric Oven), Laboratory Furnaces (VMK High-Temperature Furnace, Tubular Furnace, Tubular 3Zone furnace, Bottom Loading Furnace), and Calibrators (FastCAL 2700, CALsys-80/50, CALsys -40/50, CALsys -15/110, etc.).*
- *Creating the dimensional drawing, main assembly drawing, Part drawing, and the completing bill of materials.*
- *Preparing accurate General Arrangement, layout drawing, and Fabrication Drawing.*
- *Preparing conceptual 3D Model and Prototypes.*

- *Designing the base frames to mount the furnace components (Bricks arrangement, heaters, Ceramic fiber Boards, Heating Muffle, Cooling Muffle, Cooling arrangement, Rollers arrangement, etc.)*
- *Product design and assembly verification using CAD (SolidWorks, AutoCAD, etc.) software.*
- *Overseeing mechanical design phase from concept through production.*
- *Traveling to the project site when necessary to take a physical measurement, explaining our requirements to the production unit, learning about new furnaces, coordination, and progress review meeting with vendors.*

❖ *Company:* Graphic Nation IT Solutions, Jaipur

*Duration:* June 2016 to May 2017

*Designation:* Mechanical CAD Trainer

*Job Responsibilities:* Providing training in Mechanical CAD (SolidWorks, AutoCAD). Counselor of PMKVY Centre (AutoCAD Job Role). Basic trainer of 3ds Max, Graphic Designing (CorelDraw, Photoshop), Advanced Microsoft Office (MS Excel, MS Word), Web Designing (HTML, CSS), and Basic Computer.

## SUMMER INTERNSHIP PROGRAMME

❖ *Institute:* Malaviya National Institute of Technology (MNIT), Jaipur

*Duration:* 6 Weeks (3 June to 12 July 2019)

*Guided by:* Prof. Ram Dayal, Assistant Professor, Department of Mechanical Engineering

*Training Brief:* Learnt about fundamentals of Finite Element Method (FEM), working with Ubuntu (Linux based OS), solving Euler Equation, Modified Euler Equation using Fortran programming, meshing with Gmsh, worked on the project with chtMultiRegionSimpleFoam module applied for Composite Heat transfer (Steel-Al-Steel with heat generation), Parallel Air Flow HE.

❖ *Company:* MORANI HYUNDAI (Authorized HYUNDAI MOTOR BRANCH), Sitapura, Jaipur

*Duration:* Two Months (20 May to 20 July 2015)

*Department:* Workshop

*Training Brief:* Replacement of fuel filter, ac cabin filter, air filter, and oil filter. Change of coolant fluid, Engine oil, gear oil, brake fluid. Maintenance of spark plug, brake service, and wheel balancing.

## PROJECTS UNDERTAKEN

❖ *Postgraduate Major Project (Thesis) Title:* Study of Pulsed Ultrasound assisted Thermo-therapy for Subsurface Tumor Ablation

*Supervisor:* Prof. Anup Paul (Assistant Professor & Head of Department), Department of Mechanical Engineering

*Project Brief:* Numerical simulation performed in COMSOL to predict the effect of Pulsed Ultrasound on the tissue ablation. Consider five types of tissue model, two types of tumor size variation, pulse width ranging from 0.6 to 0.9 with transducer power of 10W & 15W. Helmholtz Equation, Pennes Equation, and CEM thermal dose function were solved. Experiments were conducted in the MUSE lab, IIT Gandhinagar under the guidance of Prof. Himanshu Shekhar.

- ❖ *UG Major Project Title:* Remote Controlled Hovercraft.  
*Project Brief:* Created an air cushion vehicle (ACV) that is a craft capable of traveling over grass, water, mud, or ice, and other surfaces.
- ❖ *UG Minor Project Title:* Line Following Robot  
*Project Brief:* Created an autonomous robot that follows either black line in the white background or white line in black background.

#### POWERPOINT / PAPER PRESENTATIONS

- ❖ PPT presentation on *3D Bioprinting* under the supervision of Prof. PK Mohanty at Department of Mechanical Engineering, NIT Arunachal Pradesh
- ❖ PPT presentation on *Flue Gas Desulphurization* under the supervision of Prof. MD Ghatak at Department of Mechanical Engineering, NIT Arunachal Pradesh
- ❖ Group PPT presentation on *Number System (representation and conversion)* under the supervision of Prof. PK Mohanty at Department of Mechanical Engineering, NIT Arunachal Pradesh
- ❖ PPT presentation on *Displacement Sensors* under the supervision of Prof. PK Mohanty at Department of Mechanical Engineering, NIT Arunachal Pradesh
- ❖ Participated in the intercollege paper presentation contest held on 08<sup>th</sup> September 2015 at **The institution of engineers (India)** Udaipur local center with theme **Engineering Challenges for Knowledge Era**.

#### WORKSHOP & SEMINARS ATTENDED

- ❖ Attended a one-week online FDP on “*Scientific and Technological Evolution of Additive Manufacturing in the Digital World*” organized by **NIT Arunachal Pradesh & GCT Coimbatore**.
- ❖ Attended a workshop on “*Ultrasound Contrast Agents: Application of Gas-Filled Microbubbles in Biomedical Engineering*” at **IIT, Gandhinagar**.
- ❖ Attended a Short Term Course (STC) on “*Computational Fluid Dynamics for Incompressible Flow (using Ansys)*” under TEQIP-III, organized by **IIT, Guwahati**.
- ❖ Attended a workshop on “*Mechatronics and Manufacturing Automation (MMA-2018)*” under TEQIP-III organized by **NIT Arunachal Pradesh**.

#### ADDITIONAL TRAINING

- ❖ Completed with honors, online course titled “**Introduction to the Biology of Cancer**” taught by faculties from Johns Hopkins University, offered through Coursera. (Credential ID: RWZKZGAP9PG3)
- ❖ Completed online course titled “**The 3D Printing Revolution**” taught by faculties from University of Illinois at Urbana-Champaign, offered through Coursera. (Credential ID: 2CTEGQSQNYKF)
- ❖ Completed online course titled “**How Things Work: An Introduction to Physics**” taught by Prof. LA Bloomfield, University of Virginia, offered through Coursera. (Credential ID: D2MB9KEXEHMP)
- ❖ Completed online course titled “**Introduction to Thermodynamics: Transferring Energy from Here to There**” taught by Prof. Margaret Wooldridge, University of Michigan, offered through Coursera. (Credential ID: 4B29RXAKLXZK)

## PUBLICATIONS

- ❖ Gajendra Singh, Abhijit Paul, Himanshu Shekhar, Anup Paul, “Pulsed Ultrasound Assisted Thermo-therapy for Subsurface Tumor Ablation: A numerical investigation (Submitted in ASME J. Thermal Sci. Eng. Appl., under revision)

## REFERENCES

- ❖ Prof. Anup Paul, Assistant professor & Head of Department  
Department of Mechanical Engineering, NIT Arunachal Pradesh, Yupia-791112 (INDIA)  
[anup@nitap.ac.in](mailto:anup@nitap.ac.in) / [catchapu@gmail.com](mailto:catchapu@gmail.com)  
+91 9485231981
- ❖ Prof. Himanshu Shekhar, Assistant professor  
Discipline of Electrical Engineering, IIT Gandhinagar, Palaj-382355 (INDIA)  
[himanshu.shekhar@iitgn.ac.in](mailto:himanshu.shekhar@iitgn.ac.in)  
+91 7923952552 / 8469883866
- ❖ Prof. Prases Kumar Mohanty, Assistant professor & Postgraduate Coordinator  
Department of Mechanical Engineering, NIT Arunachal Pradesh, Yupia-791112 (INDIA)  
[prases@nitap.ac.in](mailto:prases@nitap.ac.in) / [pkmohanty30@gmail.com](mailto:pkmohanty30@gmail.com)  
+91 9485236260 / 8732072485
- ❖ Prof Ram Dayal, Assistant professor  
Department of Mechanical Engineering, MNIT, Jaipur, Malviya Nagar-302017 (INDIA)  
[ramdayal.mech@mnit.ac.in](mailto:ramdayal.mech@mnit.ac.in) / [dayal.rd@gmail.com](mailto:dayal.rd@gmail.com)  
+91 9782616007