

# AMAN GARG

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## EDUCATION

### INDIAN INSTITUTE OF TECHNOLOGY INDORE

**CGPA: 6.93/10.00**

*B.tech, Mechanical Engineering, Jul'09 -May'13*

- Member of Society Of Automotive Engineers (SAE)
- Founder, Student Entrepreneurship support cell, Indian Institute Of Technology Indore

## RELEVANT WORK EXPERIENCE

### Indian Institute of Technology Kanpur

**July'17 - present**

*Senior Project Associate*

- Research on smart materials based actuators and their application in the radiotracer machine
- Development of Devices made of soft and flexible materials for holding endotracheal tube on the face
- Modelling and design of sensor fusion based algorithms for biomedical guidance device

### Banaao – A maker's playground (Co-founder)

**June'15- May'17**

*Head, product development*

Banaao (trans. MAKE) is the first makerspace in Gurgaon where we provide technical & hardware resources in the form of training kits and custom boards I was involved in building innovations, prototypes of new ideas and secured an investor in the early stages Developed indigenous hardware including custom electronics and mechanical design.

### Endurance Technologies Private Limited

*Design and project Engineer, Suspension R&D*

**Jun'13 – Mar'15**

- Handling shock absorber designing for new products and technologies in 4 wheeler, 3 wheeler and 2 wheeler division
- Independently managing the four wheeler design group
- Project in charge for designing and prototyping of shock absorber of Bajaj Auto Limited's first quadri-cycle and subsequently taking the product into production by working alongside the projects team for planning & deployment of automation welding, machines' framework and testing of product on-line.
- Introduced new concept of user adjustable damping in shock absorber with two indigenous designs
  - ✓ Electronically adjustable rebound damping in gas filled shock absorber
- Presently engaged in future four wheeler projects of Bajaj for design optimization and prototyping.
- Also working on the prototypes and design of *Magneto Rheological* (MR) fluid based Shock absorber design

### Mahindra & Mahindra

*Summer internship at manufacturing plant*

**May'12 – June'12**

- Elimination of Firing Test and Testing of Leakage in Cylinder Head using the study on human machine interaction
- The project proposed and implementing a design modification of the production line to eliminate the fire testing of engine for reducing man hours and reducing product defects.

## ACADEMIC PROJECTS

### B.Tech Final year project

**July'12 – April'13**

- The study on mixing of Air-biogas in the carburettor and increasing it through mathematical and curvi-linear optimization in a particular spline optimization
- Model simulation in the ANSYS fluent software to check the mixing pattern exhibited inside the venturi.

### SAE BAJA'12 and SAE BAJA'13

**2011-2013**

- Modelling the effects of the suspension on the driver comfort
- Analysed the geometric variations on the shock absorber mounting – both theoretical and computational.

## COURSE PROJECTS

- ROBOTICS mini project : Designing a 3 DOF robot with its workspace analysis
- CONTROL THEORY: Designing a pendulum damping cart using servo motors and feeding motion that opposes the motion of the pendulum
- RAPID PROTOTYPING : Designing and fabricating a Differential gear mechanism system using rapid prototyping
- METAL MATRIX COMPOSITES : A study and presentation on the metal matrix composites conducted during material sciences

## PUBLICATIONS/WORKSHOP

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- [1]. Aman Garg and Bishakh Bhattacharya, Design of a flexible endotracheal tube holder device and study of its effect on cutaneous blood flow in the skin using laser Doppler velocimetry, *SPIE Smart Structures + Nondestructive Evaluation 2019*
- [2] Aman garg, Bishakh Bhattacharya, VS Chinthu and Devendra gupta, Wireless pressure sensor node for inflatable structures [Patent, 2018]
- [3] Aman Garg, Bishakh Bhattacharya, Anil Agarwal and Sujeet Gautum, A novel carbon dioxide sensing based guidance device for Endotracheal Intubation [Patent, 2018]
- [4] Aman Garg, Bishakh Bhattacharya, Manish Dixit and Sanjay Gambhir, Shape memory alloy actuator device for flow control[Patent, 2018]
- [5] Aman garg, Bishakh Bhattacharya, Anil Agarwal and Sujeet gautum , Design and development of a Carbon dioxide sensor based guidance device for endotracheal intubation, *IEEE Journal of biomedical engineering* [Submitted]
- [6] Aman garg, Bishakh Bhattacharya,VS Chinthu and Devendra Gupta, Design of Inexpensive wireless pressure sensor nodes for inflatable structures using MEMS unit, *IEEE Sensors Journal* [Submitted]

## RELEVANT COURSEWORK

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- Robotics, Mechatronics system design, Bioinspired robotics
- Machine design I & II , Kinematics and dynamics of machines, machining science
- Microprocessors & automatic control, embedded systems

## TECHNICAL SKILLS

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- HARDWARE : rapid prototyping, CNC programming, Machining & tooling operations, embedded & sensor systems, all major microcontrollers
- PROGRAMMING: C/C++, python
- SOFTWARES: AUTOCAD, SOLIDWORKS, ANSYS, MATLAB, EAGLE PCB

## HONORS

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- JST SAKURA fellowship [Japan, January 2018]
- Workshop presentation on design and development of SMA actuator on a PCB at MIT Fab14 conference [France, July 2018]
- **TOP 25 UNDER 25 (INDIA) in Science & Technology Change makers** [2015]
- **RASHANSA- SILVER AWARD**, Company innovation awards [Endurance Technologies Private Limited, 2015]
- IIT-JEE All India Rank 3949 out of 4 Lakh participants
- Certificate of merit for scoring 100 percentile in Class X Mathematics Board Examinations
- All india rank of 32 in ARYABHATTA All India mathematics competition
- National Talent Search Examination (NTSE) Scholar.
- Best student of the year (2007).

## EXTRA CURRICULARS

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- Prizes and awards for quizzes, dramatics and story writing during
- Table tennis secretary for university in first year
- University team at annual Inter IIT sports meet in track field and basketball.
- Industrial workshops on Design failure mode and effect analysis (DFMEA), Design of Experiments (DOE), Leadership competency training, Systems management.