

## Education

### Massachusetts Institute of Technology (MIT)

Ph.D. and M.S. in Mechanical Engineering

Major: Mechanical

Minor: Science Technology & Policy

Cambridge, MA

Sep 16 – Aug 21

GPA: 4.9/5.0

### Indian Institute of Technology Gandhinagar (IITGn)

B.Tech. in Mechanical Engineering

Major: Mechanical

(with Honors)

Gujarat, India

July 10 – July 14

GPA: 9.5/10

**Relevant Coursework:** Mechanics, Computations, Machine Learning, Science Technology and Policy

## Experience

### Kamrin Group, MIT

Research Assistant – Prof. Ken Kamrin

Cambridge, MA

Aug 16 – present

- Developing reduced-order modeling techniques for granular intrusions using full-field numerical modeling in collaboration with a research group at Georgia Tech.
- The research would enable real-time simulation and performance optimization during vehicular locomotion in off-road terrains.
- Developed high-speed version of an existing 2D reduce order model (RFT) for granular intrusion and working on extending it to 3D now.

### Defense Research and Development Organization, India

Research Scientist

Dehradun, India

Jul 14 – May 16

- Led mechanical design and development of two surveillance systems in close collaboration with end users and corporate entities for real-time user feedback and timely completion of the high-priority projects.
- Conducted user trials (product presentation and demonstration) at multiple user expertise levels in diverse geographical locations across India.
- Both the products have been inducted into the Indian army with a gross order of ~₹ 2 billion (USD 26 million) to date.

### Undergraduate Projects, IIT Gandhinagar

Undergraduate Researcher

Gujarat, India

Jul 10 – May 14

- **Summer Internships at Caltech** (Jun-Jul 2013) and **IIT Kanpur** (Jun-Jul 2012): Studied micro-coining of thin-films and crushing efficiency of hollow cylinders in vehicle collisions
- Other: Low-cost **Electronic Cane for blinds** (Blind People Association Ahmedabad, 2011); **Virtual Lab** for Geotechnical experiments (Govt. of India, 2011); Low-Cost **Dishwasher startup** (i-Create, 2012); **Fabrication & Optimization of flow batteries** (BTech Thesis)

## Leadership and Volunteering

**Co-Chair** (2020), **Director** (2019) Graduate Orientation, MIT

Mar 19 – Present

- Co-headed four-month long orientation program for more than 2000 incoming graduate students at MIT for two consecutive years
- Pioneered, organized, and delivered a series of pre-orientation webinars for helping national and international students on variety of issues before arrival to the campus
- Our work during pandemic year (2020) was commended and featured in MIT News

**Co-Chair** – Departmental Service Committee, MIT

April 19 – Present

- Organized bi-weekly trips of volunteers to local volunteer organizations such as Greater Boston Food Bank and Daily table for MIT community
- Initiated new opportunities with 'Community Servings' kitchen service for critically ill
- Contribution was recognized by the department over various social platforms

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## Relevant Skills

### Mechanics & Computations:

Mechanics analysis, Reduced order modeling, Simulations

**Software:** CAD/CAE, LAMMPS, Abaqus, SolidWorks, ParaView, Blender, Matlab, Python, C, CNC, LaTeX

### Product development:

Manufacturing, Prototyping, Animations.

### Science Technology & Policy

#### Case studies:

##### Flint Water crisis:

Analyzing of EPA's latest Lead and Copper Rule Revisions (LCRR)

##### Indian generic medicine

**industry:** Analyzed the policy framework around growth and quality issues of Indian generic manufacturing capabilities

## Honors and Awards

### MathWorks Mechanical

Engineering Fellowship 2020-21;

Poster Award MERE 2020,

Best Poster Award EMI 2019 and New.Mech 2018,

IRDE Group Technology Award

DRDO 2016,

Director Silver Medal IITGn 2014

Institute Silver Medal IITGn 2014

Meritorious Winner MCM 2013

National Runner up CAD Contest

Autodesk India 2012

EWYL scholarship IITGn 2011

## Publications

6 Journal (3 first author)

12 conference presentations

## Activities

Running, Cycling, Air pistol, Squash, Cricket