

MUKUNDA MADHAVA NATH

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WORK EXPERIENCE

Samsung R&D Institute India - Bangalore (SRIB)

Advanced Technology Lab, CTO, Bangalore, India

Mechanical Engineer III

December 2017 - Present

- Improve structural integrity of smartphones through drop and bending simulations
- FEA modeling of elastomers using hyperelastic and viscoelastic models in LS-DYNA
- Contribute to research and development in the organization by designing novel hardware product concepts
- Work on collaborative projects with academic institutions to improve research capabilities of the organization.
- Identify advancements in simulation technology and its incorporation into the current processes.

General Motors Technical Centre India

Safety Crashworthiness & Pedestrian Protection CAE, Bangalore, India

Senior Engineer - Safety CAE

August 2013 - November 2017

- Nonlinear explicit dynamics simulations intensive of contact and material nonlinearity in LS-DYNA.
- Structural and occupant simulation for full and sled vehicle models.
- Correlation of CAE model to physical test results.
- Development of counter measures to meet performance target values.
- Automation through scripting to increase efficiency
- Professional working efficiency and capability in LS-DYNA, Primer, and HyperWorks Packages.

Indian Institute of Science Bangalore

Computational Nano-Engineering Group, M2D2 Lab, under Dr. G. K. Ananthasuresh

Project Assistant

August 2010 - June 2011

- Benchmarking of an FEA package developed in IISc (HyFEM) to commercial packages.
- Finite element simulation of micro compliant mechanisms.

EDUCATION

Master of Design (MDes), Product Design and Engineering, GPA: 6.4/8.0

July 2011 - July 2013

Centre for Product Design and Manufacturing(CPDM). **Indian Institute of Science (IISc) Bangalore, India**

Thesis - Design, Fabrication, and Testing of a Novel and Cost-Effective Soil Moisture Sensor Meter for Farming Applications in India.

Advisor - Dr. G. K. Ananthasuresh, Professor, Dept of Mechanical Engineering, IISc Bangalore

Bachelor of Technology(BTech), Mechanical Engineering, GPA: 8.29/10.00

July 2006 - June 2010

Department of Mechanical Engineering. **National Institute of Technology (NIT) Silchar, India.**

Thesis - Design and analysis of thermal actuators for MEMS applications.

Advisor - Dr. P. K. Patowari, Associate Professor, Dept of Mechanical Engineering, NIT Silchar.

PUBLICATIONS(J,C)/PATENTS(P)

1. [C5] Mukunda Madhava Nath, Gaurav Gupta. **Modeling the Mechanical Performance of Bendable Display Under Cyclic Loading**. In proceedings of *2019 IEEE International Flexible Electronics Technology Conference (IEEE IFETC 2019)*, August 2019, Vancouver, Canada.
2. [C4] Mukunda Madhava Nath, Gaurav Gupta. **Characterization of a Flexible Device Using a 3-Point Rolling Test**. In proceedings of *2018 IEEE International Flexible Electronics Technology Conference (IEEE IFETC 2018)*, August 2018, Ottawa, Canada. doi: 10.1109/ifetc.2018.8583958
3. [C3] Mukunda Madhava Nath, Nitin Gupta, Dibakar Sen. **Design of an Ergonomic Bicycle Seat**. In proceedings of *International Ergonomics Conference - Humanizing Work and Work Environment*, December 2014, IIT Guwahati, Assam, India.
4. [P1] Dibakar Sen, Mukunda Madhava Nath, Nitin Gupta. **A bicycle seat assembly**. *Indian patent application 2105/CHE/2013*. Patent pending.

5. [J1] P. K. Patowari, **M. M. Nath**, A. S. Bharali, J. Gogoi, C. K. Singh. **Comparative Study of Different Micro-Thermal Actuators for Micro-Electro-Mechanical-System Application.** *Journal of Advanced Manufacturing Systems (JAMS)*, Volume 11, Issue 1(2012) pp. 17-26, January 1, 2012. doi: 10.1142/S0219686712500023
6. [C2] P. K. Patowari, **M. M. Nath**, A. S. Bharali, J. Gogoi, C. K. Singh. **Comparative Study of Different Micro-Thermal Actuators for MEMS Application.** In Proceedings of the *3rd International and 24th All India Manufacturing Technology, Design and Research (AIMTDR) Conference*, December 2010, Visakhapatnam, India.
7. [C1] P. K. Patowari, **M. M. Nath**, A. S. Bharali, J. Gogoi, C. K. Singh. **Analysis of a Monometallic Two Arm Horizontal Thermal Actuator for MEMS.** In Proceedings of the *2nd International Conference on Mechanical and Electronics Engineering (ICMEE)*, August 2010, Japan. doi: 10.1109/icmee.2010.5558570

COURSEWORK

Finite Element Analysis for Materials Engineers, Advanced Micro-Nano Systems, Mechanism Design, Computer Aided Design, Creative Engineering Design.

SOFTWARE SKILLS

Simulation Packages: LS DYNA, Optistruct(Nastran).

Pre-Processing & CAD: Hypermesh, FreeCAD, Primer, LS-Prepost, NX Unigraphics, Solidworks.

Programming: Python, Unix Shell, MATLAB, C++.

Presentation/Documentation: MS Office, L^AT_EX, Beamer.

HONORS/ACHIEVEMENTS

- Design for Six Sigma (DFSS) *BlackBelt*, General Motors University
- Graduate Scholarship from MHRD, Government of India for pursuing masters' degree.
- Certificate of Proficiency from the Government of Assam for securing state rank of 24 and 32 in high school board examinations.

PERSONAL DETAILS

Male. Indian Citizen. *DoB* - 31st December, 1988

Communication Address:

#2870, Phoenix Building, Bagmane Constellation Business Park, Outer Ring Rd, Doddanekundi, Marathahalli Post, Bengaluru, Karnataka, India - 560037

Permanent Address:

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