

Murukesh Mohanan  
Student

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## Education

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2002 -- present	3 <sup>rd</sup> year student pursuing Bachelor of Technology in Mechanical Engineering at the Indian Institute of Technology Guwahati. Current grade: 6.98/10 Expected completion: May 2012
Academic achievements	<ul style="list-style-type: none"><li>• Ranked among the top 1% students (2568<sup>th</sup> out of over 3 Lakh students) in the nationwide IIT Joint Entrance Examination (JEE) in 2006.</li><li>• Ranked among the top 0.2% students (1391<sup>th</sup> out of over 5 lakh students) in the nationwide All-India Engineering Entrance Examination in 2006.</li></ul>

## Technical skills

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Programming Languages	C++, C, Python, MATLAB, L <sup>A</sup> T <sub>E</sub> X 2 <sub>ε</sub>
Software Packages	MATLAB/Simulink 7, Sage Math, MS Office, Solid Edge
Operating Systems	Linux (Ubuntu), Windows XP/Vista/7.
Research interests	Robotics (Mechanical arms, artificial intelligence for robots), Manufacturing Technology (Advanced materials, manufacturing processes), Control Systems, Computational Heat Transfer.

## Projects undertaken

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Ongoing	Simulation of hollow continuous casting using Finite Differences Method Guide: Prof. P. S. Robi, Dean, Research and Development, IIT Guwahati This project involves the study of: <ul style="list-style-type: none"><li>• Determination of the effective coefficient of heat transfer within the molten metal.</li><li>• Effect of varying pouring speeds on the strand length.</li><li>• Effect of varying strand thickness on the solidification length.</li></ul> The explicit Finite Differences Method is used for simulations.
Ongoing	Simulation of effects and control of air-gap variations and vibrations, in electric motors using Finite Elements Method Guide: Dr. Karuna Kalita, Asst. Professor, Department of Mechanical Engineering, IIT Guwahati This project involves the study of: <ul style="list-style-type: none"><li>• Effects of varying air-gaps between the stator and the rotor.</li><li>• Effects of varying frequencies of the stator current, to vary the magnetic field.</li><li>• Effects on shafts rotating at near-critical speeds.</li></ul> The Finite Elements Method is used for simulations.

## Personal projects

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2008	Developed a robot with basic motor abilities for Manual Robotics in Technique
2009	Develop a counter with LED display as part of Electronics Laboratory

## Other activities

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Alcheringa <sup>a</sup>	<ul style="list-style-type: none"><li>• Member of the 2008 Marketing team.</li><li>• Organised PC LAN-gaming event in 2009</li></ul>
Techniche <sup>b</sup>	<ul style="list-style-type: none"><li>• Member of 2008 Hospitality team</li></ul>
NSO	Regular participant of NSO (National Sports Organization) activities

## Interests

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 Reading novels	 Free Software Movement
 The Ubuntu project	 Football/Soccer

## Personal Details

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Current Address	159, Dihing Hostel, IIT Guwahati, Guwahati, Assam, India PIN - 781039
Permanent Address	Flat no.5, D-10, Rockies II, Godrej Hill, Kalyan, Maharashtra, India PIN - 421301
References	Available on request.

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<sup>a</sup>IIT Guwahati's annual cultural festival

<sup>b</sup>IIT Guwahati's annual techno-management festival