

To  
The Hiring Manager

Dear Sir/Madam,

### **APPLICATION FOR INTERNSHIP/WORK EXPERIENCE**

I am writing to apply for any opportunity for work experience or internship within your organisation. I have enclosed my CV for your kind consideration. I want to work with the automotive and motorsport industries.

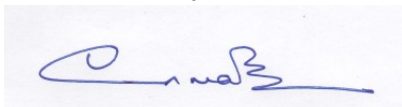
Previously, I have worked on the aerodynamics of Ahmed body using CFD. Here I investigated the effect of the back slant and diffuser angles on the lift and drag coefficients. I gained **proficiency in using the meshing software ICEM-CFD** for generating structured meshes using the blocking technique. Currently, I am doing a project in Oxford Brookes University on the dynamic analyses of the monoshock suspension system for a Formula Renault Tatuus racecar, carried out on the 4-Post shaker rig. Consequently, a twin shock system with the third spring will be designed and a **7-Post test rig modelled within MSC.Adams/View**. Several tests like heave test, roll test, warp test and kerb strikes are performed on the existing and proposed designs within the Adams shaker rig.

I have completed four years of Engineering (Mechanical) and six months of CFD training in India, after which I came to England for a specialisation in motorsport vehicle dynamics. During my undergraduate studies I was particularly interested in CAD and excelled in using Autodesk Inventor 7. I also excelled in modules like Engineering Graphics and Machine Drawing. I have had an aptitude towards learning and operating simulation and design softwares and enjoy working with CAD, CFD and Multi Body Dynamics softwares. Having completed the Data Acquisition and Numerical Methods modules, I worked with Matlab and Simulink and developed **excellent programming skills**.

Although I am currently on a student visa and there is a limit to the hours of work I can put in. However, after the completion of my course (August 2009), I am eligible for a post-study work visa, which allows me to work in the UK to my full capacity. Therefore, I would be very thankful for any paid/unpaid opportunity for training/internship at your company.

I hope that, after you go through my CV, you would consider me as a fit candidate for any training scheme/internship or work experience opportunity at your organisation. Looking forward to hearing from you.

Yours sincerely,



Ankit Narayan Mathur

CV attached below

# Ankit Narayan Mathur

S8D, Cheney Student village, Cheney Lane,  
Headington, Oxford OX3 0BD, UK.  
Mobile : +44(0) 7942844252  
Email id: [ankitnarayanmathur@gmail.com](mailto:ankitnarayanmathur@gmail.com)

## Personal Profile:

A mechanical engineer trained in vehicle dynamics, Computational Fluid Dynamics and aerodynamics, proficient in using Adams, Matlab, CAD & CFD software packages. At present studying Motorsport Engineering at Oxford Brookes University.

## Educational Profile:

### Masters' of Science in Motorsport Engineering (2008-2009) Oxford Brookes University, Oxford, UK.

**Current Project:** "Design of a triple spring/damper suspension system for a racecar with a mono-shock suspension."

This allows the Formula Renault car to run softer side springs in order to help with traction and the riding of kerbs while helping to maintain the correct ride height when speed & aero loads increase in straights. The dynamic analysis of the existing and the proposed suspension system is carried out on the 7-post shaker rig in Adams/view and the university's 4-post rig.

#### Modules:

- **Advanced Chassis Engineering-** Understeer & Oversteer(Derivatives) Analysis with Adams modelling, Suspension Optimisation using Shaker Test Rig, Load Transfer Analysis etc.
- **Data Acquisition Systems-** Sensors, Signal Processing, Math channels etc.
- Numerical Methods & Applications
- Engineering Simulation & Modelling
- Research & Study Methods

### Diploma in Advanced Computational Fluid Dynamics (CFD) (2008) Centre for Computational Technologies Pvt. Ltd., Pune, India.

**Project:** "Study of the external aerodynamics of road vehicles using CFD."

To study the aerodynamics and flow structure of the Ahmed reference body, compare values of  $C_l$  &  $C_d$  for different rear slant angles of the vehicle and validate the K-Epsilon turbulence model in the commercial CFD software Fluent. The Ahmed Body geometry and a "*structured mesh*" was generated using pre-processing software Ansys ICEM-CFD.

#### Modules:

- Fluid Mechanics
- Structured, Unstructured Grid Generation
- Numerical Methods in CFD (Finite Difference and Finite Volume Methods)
- Basics of Turbulence Modelling
- Software Training- FLUENT, GAMBIT, Ansys ICEM-CFD

**Seminar Presented** "FINITE VOLUME METHODS FOR CFD." At CCTech, Pune on 21<sup>st</sup> March 2008.

**Bachelor of Engineering: MECHANICAL Engineering (2003-2007)****Visvesvaraya Technical University, India**

College: Sir M. Visvesvaraya Institute of Technology, Bangalore, India.

Grade: First Class; 4<sup>th</sup> year: First Class with Distinction**Project:** "Finite Element Analysis of a Piston Subjected to Thermal & Static Loads."

Coupled heat transfer &amp; static load analysis was carried out on an I. C. Engine piston using the F. E. A. software package MSC/Nastran.

**Some of the Modules:**

- Automotive Engineering
- Hydraulics and Pneumatics
- Heat and Mass Transfer
- Tribology

**Seminar Presented** "THRUST VECTORING IN MODERN COMBAT AIRCRAFTS." At MVIT, Bangalore on 14<sup>th</sup> May 2007**Softwares worked with:**

<b>MSC.Adams</b>	<b>Fluent &amp; Gambit</b>	<b>MATLAB &amp; Simulink</b>
<b>Ansys ICEM-CFD</b>	<b>Chassis Sim</b>	<b>CATIA V5</b>
<b>Motec i2 Pro</b>	<b>Autodesk Inventor v7</b>	<b>MSC. Nastran</b>

**Courses & Seminars Attended:**

- **Applied Vehicle Dynamics to Racecar Design & Development**  
Presented by **Claude Rouelle, Optimum G**  
Duration 3-Days
- **World Motorsport Symposium 2008**  
Duration 2-Days
- Autodesk Inventor 7  
Duration 50-Hrs
- MSC Nastran  
Duration 20-Hrs

**Hobbies:**

- Sketching automotive designs
- Collecting data on cars and aircrafts
- Motorcycle riding & drag racing

**References available on request.**