MUKILAN T. ARASU

Address: D305, Azad Hall, IIT Kharagpur

Phone: +91-9932584627   Date of Birth: 21.04.1988   Email: mukilan.kgp@gmail.com

EDUCATION

Year	Qualification	Institute	CGPA / Percentage
2011	Dual Degree – Mechanical Engineering	IIT Kharagpur	7.41
2005	Class XII: ISC	St. Joseph's Academy, Dehradun	92.5 %
2003	Class X: ICSE	St. Joseph's Academy, Dehradun	91.2 %

SUMMER TRAINING

University of Erlangen-Nuremberg, Germany   DAAD scholarship, Summer 2009

Title: FEM analysis for describing PVT behavior of Thermoplastics

- Implemented existing PVT models for thermoplastic materials to verify experimental data
- Developed a 2D Finite Element model with the help of Artificial Neural Networks to simulate the PVT behavior of a thermoplastic specimen undergoing simultaneous heating and cooling using Matlab.

PROJECTS

1. **Forced Convection in the flow developing region of a Channel partially filled with Porous Medium**
   - Derived the velocity and temperature profiles for the fully developed region in Mathematica.
   - Developed a Finite Difference Simulation for the flow developing region using Matlab.
2. **Development of a Prototype Car for Formula Racing**
   - My group's responsibilities are: choosing the engine, optimal design of the intake, exhaust and mounts in accordance with the rules and re-wiring the engine electronics for appropriate mounting of the engine.
3. **Simulation of the motion of an Autonomous Underwater Vehicle (AUV)**
   - Formulated the equations of motion of an ellipsoidal body immersed in an ideal fluid
   - Simulated its motion for various combinations of initial conditions, forces and torques using Matlab.
4. **Fuzzy Logic-based Traffic Control System**
   - Designed a fuzzy logic-based traffic signal control system in Matlab using traffic density and traffic flow rate as parameters that adjusted the signal timer according to the relative traffic conditions.
5. **Design of a Couette Rotational Viscometer**
   - Designed and manufactured a rotational viscometer based on Couette flow to measure the viscosity of liquids.

ACADEMIC ACHIEVEMENTS

- Selected for the prestigious DAAD (German Academic Exchange Program) scholarship in summer, 2009.
- Secured an All-India Rank of 938 in IIT-JEE 2006 (Joint Entrance Examination for admission to IIT) out of over 250,000 students who appeared for the exam.
- Ranked 2881 (State Rank 32) in AIEEE 2006 (All India Engineering Entrance Examination).
- Winner of Robotics quiz held for first years at IIT Kharagpur.
- Merit holder in National Cyber Olympiad `04 organized by National Olympiad Foundation.

SKILLS

- Programming Languages: C, C++, Java, HTML
- Software Packages: Fluent, SolidWorks, AutoCAD, EES, Ricardo Wave (engine simulator), Mathematica, Matlab
- Languages known: English, Hindi, Tamil, Marathi

EXTRA ACADEMIC ACTIVITIES

1. **Founding Member and Head (Engine Group)** of Formula SAE (Society of Automotive Engineers), IIT Kharagpur
   - Devised the organizational structure of the team and procured funding from the institute.
   - Conducted selection and training of team members for various groups.
   - Won the 9th spot out of over 150 teams from around the world on our first attempt in the Cost Event at Formula Student 2010, UK.
2. Secretary (Mess), Azad Hall of Residence
   - Allocated mess duties to hall residents and awarded tenders to suppliers
   - Supplied adhesive and other materials; arranged for midnight refreshments during Illumination festival preparation.
3. Experienced and worked in diverse cultural environments and conditions. Lived in Kuwait, Erlangen (Germany) and 6 cities across India.

REFERENCES

1. Prof. V.V.Satyamurty, Department of Mechanical Engineering, IIT Kharagpur.
2. Dipl.-Ing. Thomas Tsigkopoulos, Lehrstuhl für Kunststofftechnik, Universität Erlangen-Nürnberg, Germany.