Komaljit Meena

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Electrical Engineering   **Contact no.: +91 9450352009**

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Objective

I aspire for a creative & challenging **Summer Internship**(May'08-July'08) where I can exercise my engineering and interpersonal skills and that gives me an opportunity to enhance my knowledge and explore future career possibilities.

Areas of Interest

- Communication Systems
- Signals an Systems
- Image Processing
- Control Systems

Education Qualifications

Year	Exam/Degree	Institute/School	Performance
2005-till date	B-Tech in Electrical Engineering	IIT, Kanpur	CPI - 7.8/10 (CGPA-3.12/4) [after 5 semesters]
2005	Class 12th (Central Board of Secondary Education)	Kendriya Vidyalaya No. 1, Jaipur	86.4%
2003	Class 10th (Central Board of Secondary Education)	Kendriya Vidyalaya No. 2, Jaipur	85.4%

Relevant Courses   **(*) to be completed till summers 2008**

- INTRODUCTION TO
  - ELECTRONICS
  - ELECTRICAL ENGINEERING
- MICROELECTRONICS
- SIGNALS, SYSTEMS AND NETWORKS
- MICROELECTRONICS
- PRINCIPLES OF COMMUNICATION
- POWER SYSTEMS
- ELECTROMAGNETIC THEORY*
- POWER ELECTRONICS*
- LABORATORY COURSES(as mentioned in **lab exposures** below)
- DIGITAL SIGNAL PROCESSING*
- MODERN CONTROL SYSTEMS

Computing:
- Fundamentals of Computing (JAVA)
- Probability & Statistics

Basic Sciences:
- Real Analysis, Calculus and Analytical Geometry
- Complex Analysis and Linear Algebra
- Ordinary and Partial Differential Equations
- Mechanics, Electrostatics & Electro-Magnetism
- Physical, Organic & Inorganic Chemistry
- Electro-Magnetic Theory*

Other Engineering:
- Introduction to Manufacturing Processes
- Engineering Graphics

Project and Research work

- **Use of Control Theory in studying Cooperative Control(from may 2007 to july 2007)**

  *Supervisor: **Dr. Ramprasad Potluri,** Assistant Professor, Department of Electrical Engineering IIT, Kanpur*

  The objective of this project was to study different models of cooperative control systems and analyze two different agents moving in a geographic environment, cooperatively searching for targets of interest and avoiding obstacles. These agents were able to communicate with one another to enable cooperation. The cooperative search framework was based on two interdependent tasks (i) Learning of the environment and storing of the information; and (ii) utilization of this information to compute a guidance trajectory for the agent to follow.

- **Study and Detailed Analysis of the following publications under Departmental guidance:**

  - **On the Energy Detection of Unknown Signals Over Fading Channels**
    Digham, F. F.; Alouini, M.-S.; Simon, M. K.

  - **Design and Performance of Space–Time Codes for Spatially Correlated MIMO Channels**
    Clerckx, B.; Oestges, C.; Vandendorpe, L.; Vanhoenacker-Janvier, D.; Paulraj, A. J.

  - **Storage area network extension over passive optical networks (S-PONS)**
    Yin, S.; Luo, Y.; Zong, L.; Rago, S.; Yu, J.; Ansari, N.; Wang, T.

  - **Voice communications over zigbee networks**
    Wang, C.; Sohraby, K.; Jana, R.; Ji, L.; Daneshmand, M.

  - **A Practical Scheme for Wireless Network Operation**
    Gowaikar, R.; Dana, A.F.; Hassibi, B.; Effros, M.

  - **Minimum-Bandwidth Optical Intensity Nyquist Pulses**
    Hranilovic, S.

  - **A Stochastic Approximation Approach to the Power-Control Problem**
    Zhang, H.; Wong, W. S.; Ge, W.; Caines, P. E.

  - **High-Performance Cooperative Demodulation With Decode-and-Forward Relays**
    Wang , T.; Cano, A.; Giannakis, G.; Laneman, J.

  - **Relaying Schemes Using Matrix Triangularization for MIMO Wireless Networks**
    Hui Shi; Abe, T.; Asai, T.; Yoshino, H.

  - **High-Rate Direct-Sequence Spread Spectrum With Error-Control Coding**
    Pursley, M.B.; Royster, T.C., IV

Other Term Projects

- **Mechanical Fabrication Project**

  Supervisor: N.V Reddy, Associate Professor, Mechanical Engineering, IIT Kanpur

  In this project, a team of 5 students worked on:

  1) A project to fabricate a prototype of a **Mechanical Cannon** with the features such as accurate targeting and multiple speeds.
  2) A project to fabricate a replica of an **Oil rig** (which was among the top 10 projects).

- **Sociology Project on Industrialization in India**
  Supervisor: Dr. Amman Madan, Humanities & Social Sciences, IIT Kanpur
  In this project, I studied the **Effect of Industrialization and power dynamics of village Birhuni, U.P** including corruption and cooperatives in it.
- **Detailed analysis of Economy, International Business Environments and Future Visions**
  Guided by: Dr. A. Sinha, Fellow in Management (IIM Ahmedabad)

Laboratory exposure   (*) to be completed till summers 2008

- **Labs including various areas of electrical engineering such as**
  - ➢ **electronic devices and circuits**
  - ➢ **control systems**
  - ➢ **Power machines**
  - ➢ **Digital electronics***
  - ➢ **Communications***
  - ➢ **Drives and power systems***
  - ➢ **Electromagnetic theory***

Computer Skills

- **Operating systems:** Windows & Linux
- **Programming skills: BASIC, JAVA,**
- **Tools and Engineering Softwares:** Office tools, Microcap, Matlab, Photoshop

Extra Curricular Achievements and Activities

- Winner of **1st prize** in the event **'Nirmaan'**(*civil engineering*) in annual technical festival **Techkriti** at **IIT Kanpur**, among **125 contesting teams** from all over India.
- One of the **top ten** projects in Manufacturing Processes Project in 2006.
- Leading the group of 10 students, a short film made by us was selected among the **top 10** self produced short movies in **Umang 2006** the Annual Film Festival at **IIT Kanpur**
- Active participation in **Brick's workshop** (robot making using logo kit) at **IIT Kanpur** in 2006.
- Active participation in **Electronics workshop** on digital clock making at **IIT Kanpur** in 2006.
  (References available on Request)