

## Welcome Message

Machine Intelligence Research Labs (MIR Labs) is a global non-profit academic consortium focused on innovation and research excellence. MIR-Labs comprises network comprises of several leading academicians and scientists from the Universities and Industry from different continents. Currently the network comprises of research scientists from over 35 countries around the globe. The main objectives of MIR Labs are as follows.

- To initiate new innovative research directions by networking together the critical mass of resources
- To strengthen scientific and technological excellence on a particular research area, this is important to a particular geographical region / area / country etc.
- To integrate the various research efforts of the scientific team to be a source of innovation on possible scientific, technological and socio-economic trajectories to mould the future of Machine Intelligence
- To promote and sponsor scientific activities (conferences and workshops) in developing and under represented countries by offering mentoring, technical assistance etc.

We are blessed with sophisticated technological artifacts that are enriching our daily lives and the society. It is believed that the future Internet is going to provide us the framework to integrate, control or operate virtually any device, appliance, monitoring systems, infrastructures etc. An Internet enabled cyber-ecosystem is not far away. Such a complex system has to be autonomous and able to continuously adapt, providing the required quality of service levels according to different service level agreements, without requiring the need of much human intervention. This is an interesting problem. The challenge is to design intelligent machines and networks that could communicate and adapt according to critic or error information, self organize and resilient in case of a system, service or component failure due to natural cause or a malicious attack. Currently a lot of focused research works is going in different areas and most of these results are confined to the institutions and laboratories. We believe that an academic initiative is required to integrate the various research efforts to build complex intelligent machines and networks that can tackle our complex problems of the future.

The stage for the Inaugural MIR International Workshop has been set. On behalf of the MIR Day local organizing committee, we wish to extend a very warm welcome to this edition in Nagpur, India. The Workshop program committee has organized an exciting and invigorating program comprising presentations from distinguished experts in the field, and important and wide-ranging contributions on state-of-the-art research that provide new insights into current cutting edge results on 'Machine – Network Intelligence Research'.

We have speakers from all over India and also from Europe and Asia. The technical program of MIR Day 2009 workshop comprises of 20 papers. The workshop program committee had a very challenging task of choosing high quality submissions. Each paper was peer reviewed by at least two or more independent referees of the program committee and the papers were selected based on the referee recommendations. The papers offer stimulating insights into emerging intelligent technologies and their applications in Internet security, image processing, data mining, swarm intelligence, optimization and so on.

MIR Day 2009 is blessed to have the presence of the following three plenary speakers:

- Václav Snášel, VSB-Technical University of Ostrava, Czech Republic
- Sangyong Han, Chung-Ang University, Seoul, South Korea
- Suash Deb, C. V. Raman College of Engineering, Orissa, India

This workshop was organized by the MIR Labs, India Center hosted by the G. H. Rasoni College of Engineering, Nagpur, India. We would like to take this opportunity to express our sincere gratitude and whole hearted thanks to the Chairman of the Rasoni Group of Institutions, Shri. Sunil Rasoni for providing us the great support to establish the MIR Lab India Center. We now have an office space of about 100 Square Meters with computational facilities required to host other visiting International and National MIR Lab Network researchers / members etc.

The success of MIR Day is due to the hard work and effort of many people. We would like to express our sincere thanks to the members of the local organizing committee. We thank the members of the program committee and external reviewers for their timely evaluation of the submitted papers. We are very grateful to several institutions and corporations for their sponsorship and assistance.

Finally, we hope that you will find these proceedings to be a valuable resource in your professional, research, and educational activities whether you are a student, academic, researcher, or a practicing professional.

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