**Requirements**

Candidates have to bring their own laptops installed with Matlab-2010 (or higher version) for doing experiments.

**Registration Details**

* Target audience:
  M-Tech students, Research Scholars, Faculty and Industry personnel

* Registration fee:
  Students & Research Scholars: Rs. 2000
  Faculty: Rs. 3000
  Industry participants: Rs. 10000

Registration fee is inclusive of food and accommodation (shared) for 4 days.

For more details visit: www.nlp.amrita.edu:8080/AODA2014

Interested candidates should submit a DD drawn in favour of amritacen, Amrita Vishwa Vidyapeetham, payable at Coimbatore.

For Online registration visit: http://nlp.amrita.edu:8080/AODA2014/

**Important Date**

Last date for registration: 25/01/2014

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**Four Day Workshop on**

ADVANCED OPTIMIZATION, DEEP LEARNING & APPLICATIONS

Jan 30 to Feb 2 - 2014

**Organised By**

Centre for Excellence in Computational Engineering & Networking

Co-ordinators

Dr. K.P Soman
Mrs. Sowmya V.
Centre for Excellence in Computational Engineering & Networking
Amrita School of Engineering, Amritanagar P.O., Coimbatore – 641 112
e-mail: cenworkshop@gmail.com

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Accredited by NAAC with ‘A’ grade
Amrita Vishwa Vidyapeetham, with its head quarters at Amritanagar, Coimbatore, is one of the young multi-campus, multi-disciplinary educational institutions in India to have been granted the University status u/s 3 of UGC act of 1956. This status was conferred on it by the Ministry of Human Resources & Development Government of India after meticulous inspection by the teams from University Grants Commission (UGC), Medical council of India (MCI) and All India Council for Technical Education (AICTE). Amrita Vishwa Vidyapeetham has been awarded “A” grade (the highest possible grade) by National Assessment and Accreditation Council.

Deep Learning
- Neural Networks
- Autoencoders
- Convolutional Networks
- Kernel Methods
- Applications in Machine Learning, Computer Vision and NLP

Overview
Deep Learning is a new area of research in Machine Learning which aims to achieve its original goal: Artificial Intelligence. Recent result in this area offers great promise in solving problems in Computer vision and NLP tasks. The prerequisites to master this area are Computational Linear Algebra, Modern Optimization and Wavelets (Wavelet Scattering Transform). This course aims to impart that knowledge to the participants. The course will also comprehensively cover the latest research findings and implementation aspect of the algorithms. For the purpose of continuity, the whole course will be delivered by two faculties (Dr. Soman K.P. & Mrs. Sowmya V.). There will be practical sessions. It will be a day-night program.

Faculty @ CEN
Dr. Soman K.P. (PhD : IIT KGP)
Dr. K.I. Ramachandran (PhD : IIT Madras)
Dr. S. Rajendran (PhD : Pune University )
Dr. Shanmugha Sundaram Gopinath (PhD : IISC )
Dr. Govind D. (PhD : IIT Guwahati)
Dr. Krishnan Namboori (PhD : Amrita University)
Dr. Anand Kumar M. (PhD : Amrita University)
Dr. P. Geetha (PhD : Bharathiar University)
Mrs. Sowmya V. (M.Tech : Amrita University)
Mr. Saravanan S. (M.S by Research : Amrita University)
Mr. Rakesh Peter (M.S by Research : Amrita University)
Mr. Sajith Variyar V V (Research Associate : Amrita University)

Topics
Basic Linear Algebra
- Orthogonal bases
- Projection on to various spaces
- SVD (Singular Value Decomposition)

Modern Optimization Methods
- Proximal
- ADMM
- Interior Point Methods
- Legendre-Fenchel Transform
- Applications in Computer Vision