Vikas Verma

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RESEARCH INTERESTS

Optimization in Deep Neural Networks with application to Computer Vision and Natural Language Processing.

EDUCATION

Doctoral Candidate, Department of Computer Science
Aalto University, Espoo, Finland, Nov 2015- present
Supervisor: Prof. Tapani Raiko

Master of Technology, Computer Science and Engineering
Indian Institute of Technology, Madras, India, 2009-2011
Concentration: Machine Learning
THESIS: Image Retrieval And Classification Using Localized Feature Vectors
Thesis Grade : 10/10
CGPA: 9.06/10

Bachelor of Technology, Information Technology
Uttar Pradesh Technical University, India, 2004-2009
Concentration: Computer Science
Percentage: 72.5

RELEVENT COURSE-WORK AT POST GRADUATE LEVEL

Artificial Neural Networks
Pattern Recognition
Data Mining
Computer Vision
Knowledge Representation and Reasoning
Mathematical Concepts of Computer Science(this includes Linear Algebra, Discrete Mathematics and Probability Theory)
Advanced Data Structures and Algorithms
Social Network Analysis (Audited)

PUBLICATIONS

Vikas Verma, Internet Traffic Classification using Deep Learning, Accepted as a full conference paper to IEEE International Symposium on a World of Wireless Mobile and Multimedia Networks , 2015.
Masters Thesis, Image Retrieval And Classification Using Local Feature Vectors, http://arxiv.org/abs/1409.0749.

PATENTS

Vikas Verma, *Method and Apparatus For Determining Similarity Information For Users of a Network* . U.S. Patent Application 20140244664, filed February 25, 2013.

Vikas Verma, Brindha Padmanabhan, Manoj Prasanna Kumar, N Hari Kumar,

Automatic definition of data model and deployment of an application in a federated database system, WO1: Application number :PCT/SE2013/050201, filed March 07,2013.

Vikas Verma, Vincent Huang, *An efficient service representation method for user service prediction*,WO1: Application number : PCT/SE2013/051446 filed December 4, 2013.

Vikas Verma,N Hari Kumar, Ranjani Balakrishna, *Method and Apparatus to Spread and Promote the Influence Sphere using End User Mobile Social Network*, US1: Application number : 14/337952, filed July 22, 2014.

WORK EXPERIENCE

Experienced Researcher Nov 2011 - March 2015
Ericsson Research, Chennai, India

- Applied Deep Learning to various use-cases in Telecommunication domain.
- Researched, designed and implemented machine learning modules for communication-network based use-cases such as Bandwidth Prediction, Uplink Grant Prediction, Packet Protocol Prediction, Discontinuous Receiver Setting optimization, Call-drop Prediction, Internet Service Identification and Internet Service Usage Forecasting etc.
- Proposed and implemented novel methods for efficient and accurate customer churn prediction and customer sentiment analysis.
- Proposed, prototyped and verified novel methods for core machine learning challenges such as handling of categorical variables of large cardinality.
- Lead the competence building process by learning and sharing knowledge about advanced machine learning algorithms such as Deep learning.
- Contributed towards creation of Intellectual Property by filing patents.

Graphics Software Engineer June 2011 - Nov 2011
Intel Technology, Bangalore, India

- Coded and debugged device drivers for different media types.
- Refactored complex device driver codes for efficiency and correctness.

Teaching Assistant Aug 2009 - May 2011
Indian Institute of Techology, Chennai, India

- Acted as a support to the Professor in the courses of Advanced Computer Networks.
- Conducted the tutorials and provided personal academic support and mentoring for group of students.

SCHOLARSHIP

Ministry of Human Resource Developement (India) Scholarship for Post Graduate studies. (INR 160,000. 2009-2011)

HONORS AND AWARDS

Ranked among top 0.7 percentile (among nearly 50,000 students) in Graduate Aptitude Test in Computer Science and Engineering conducted by Indian Institute of Technology.

TECHNICAL SKILLS

Python (Theano, Scikit-Learn, NumPy), Java, Matalab, R