

Education

University of Southern California (USC) , Los Angeles, CA	GPA 3.95/4.0
MASTER OF SCIENCE, COMPUTER SCIENCE	Aug 2007 - Dec 2008
G.G.S. Indraprastha University (GGSIPU) , New Delhi, India	PERCENTAGE:81.4%, RANK:5/50
BACHELOR OF TECHNOLOGY, COMPUTER SCIENCE	Aug 2003 - May 2007

Research Projects

English to Hindi Transliterator ADVISOR: DR. KEVIN KNIGHT, USC, ISI

Worked at transliterating english words to hindi words using NLP techniques combined with unsupervised learning algorithms. Major challenge involved finding mapping between english letters and hindi letters.

Text Classification of News Articles ADVISOR: DR. SOFUS MACSKASSY, USC

Compared results of classifiers K-NN & Naive Bayes on sets of news articles. Examined performance of the classifiers by adding contextual & conceptual information to data (addition of synonyms, titles of documents, phrases in place of words).

Semantic role labelling using verb clusters ADVISOR: DR. ANDREW GORDON, USC, ICT

Worked at improving the accuracy of semantic role labelling algorithms using dimensionality reduction. Developed a novel tree based algorithm that allowed controlling the degree of clustering and hence the dimensionality of the verb space.

Decipherment : Cryptography and Language Translation ADVISOR: DR. KEVIN KNIGHT, USC, ISI

Worked at decoding letter & word substituted cipher using NLP techniques. Explored EM/Viterbi, integer programming, transformation based learning. EM/Viterbi yielded the best accuracy of 74%.

Online Face Detection and Recognition System ADVISOR: PROF. SUBHASHIS BANERJEE, IITD

Developed a real time face detection & recognition system using LDA and PCA on HAAR features. Experimentation under varying illumination, background, hairstyles and occlusion yielded 95% accuracy for a database of 50 people.

Software Skills

- *Language Skills:* Fluency in C, C++, Javascript, JSP. *Experience:* Java, Python
- *Web Technologies:* HTML, Javascript, CSS, XML, JSP, PHP, XSLT, AJAX, MySQL
- *OS Skills:* Linux, UNIX, Microsoft Windows 9x/XP/Vista

Work Experience

TheStoreBook Inc., Redwood City, CA INTERN, SUMMER 2008

Worked on various aspects of marketing solutions for local businesses.

- Matching businesses and shoppers, leveraging geography (Geo coding, Map Mashups, I-Calendars).
- Created backend tools to manage and map large hierarchies of commercial data.
- Created Facebook application *dealr* to drive discovery of commercial activity via social networks (launched Aug'08).

Kritikal Solutions Pvt. Ltd, New Delhi, India INTERN, SUMMER 2006

Integrated our face detection & recognition system with the company's code base and set up an operational prototype.

Courses Undertaken At USC

Analysis of Algorithms	Introduction to Computer Networks	Artificial Intelligence
Introduction to Cryptography	Web Technologies	Machine Learning
Empirical Methods in Natural Language & Processing.		

Software Projects

- **Web Technologies**
Developed a web based information system with the following features:
 - Allow customers to create profile, build a shopping cart, place orders and check the order status.
 - Support for administrators to manage the business and view sales reports.
 - A set of web services to provide integration support with other information systems.
- **Artificial Intelligence**
 - *Code Breaking Game:* Developed expert system to implement a logical code breaking game similar to Master Mind.
 - *Route Planning:* Used A* & IDA* to solve an instance of path planning problem with non uniform cost.
- **Computer Networks**
 - *Socket Programming:* Simulated transfer of fragmented messages over TCP & UDP sockets in a network.
 - Simulated and studied IEEE 802.5, RIP & OSPF using OPNET and HTTP & ARP using Wireshark.
- **GPS Tracking System**
Developed a system to render maps from point coordinate data. Integrated with a GPS device to map the user's location.

References

Dr. Andrew Gordon (Project Supervisor)

The Institute for Creative Technologies (ICT)
University of Southern California
13274 Fiji Way
Marina del Rey, CA 90292-7008
E-mail: gordon@ict.usc.edu

Dr. Kevin Knight (Project Supervisor)

USC/Information Sciences Institute (ISI)
4676 Admiralty Way
Marina del Rey, CA 90292
E-mail: knight@isi.edu

Dr. Dinesh Katiyar (Project Supervisor)

TheStoreBook inc
3 Twin Dolphin Drive
Redwood city, CA
E-mail: dinesh.katiyar@thestorebook.com