Harsh Trivedi

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Interests:	Natural Language Processing, Information Retrieval, Data Structures, Web development
Languages:	Ruby, Python, R, Java, C, Javascript and HTML, SQL
Tools &	Ruby on Rails, MongoDB, Redis, PSQL, jQuery, AJAX, LaTeX,
Technologies:	Weka, Python NLTK and Scikit-learn, Git, AWS S3 and EC2

EDUCATION

2012-16	**Dhirubhai Ambani Institute of Information & Communication Technology, Gujarat, India**
	B. Tech in Information and Communication Technology	**CGPA**: 8.23/10.0
2011-12	**New Samarth, Gujarat, India** - 12th grade, HSc, Gujarat State Board **Percentile**: 93.63
	GUJCET 2012: 95.32 percentile	AIEEE 2012: Ranked 6186 / $\approx$ 1.1 million students appeared
2009-10	**M.K High School, Gujarat, India** - 10th grade, SSc, Gujarat State Board	**Percentage**: 86.00

RESEARCH PAPERS

Dec'15	*"A New Approach to Syllabification of Words in Gujarati", Springer, LNAI 9468, pp. 631-639* (link)
	Harsh Trivedi, Aanal Patel, Prasenjit Majumder
(published)	→ Built a mathematical model for syllabification using probabilistic calculations in a systematic way.
	→ Using CRF based approach achieved a 98.02% syllabic accuracy.
	→ Paper accepted at "Mining Information and Knowledge Exploration (MIKE 2015)"
Jan-Jun'15	*"Author Masking through Translation"*
	Yashwant Keswani, **Harsh Trivedi**, Parth Mehta, Prasenjit Majumder
(accepted)	→ Author Masking is task of rewriting the document to obfuscate the stylometric identity of original author.
	→ Built translation models with europarl parallel corpora using Moses & leveraged it for identity obfuscation.
	→ Stood 2nd in Author Masking Task of CLEF: PAN-2016.
Jun-Jul'15	*"Noise Correction in Pairwise Document Preferences for Learning to Rank"*
	Harsh Trivedi, Prasenjit Majumder
(submitted,	→ Learning to Rank is a machine learning approach to ranking.
result due)	→ Developed a way of correcting significant amount of errors in training data for Learning to Rank.
	→ Up to 90% of errors could be corrected with high statistical difference.
	→ Paper submitted for review at International Conference on Applied Pattern Recognition (ICAPR-2016).

WORK EXPERIENCE AND INTERNSHIP

Dec'13-Jul'14	**Technical Lead at Areysun Online Pvt. Limited** (link)
	→ Areysun is an IOS / Android app which allows people to share their expressions anonymously.
	→ Worked on 'Ruby on Rails' on the backend with multiple data stores like Postgresql, Redis & MongoDB.
	→ Was majorly responsible for the technical architecture and most of the server side code at Areysun.
May'15-Jul'15	**Research assistant at IRLab - DAIICT, Gandhinagar**
	→ Developed a new statistical approach for syllabification of words in Gujarati yielding 98.02% accuracy.
	→ Worked on government funded project Cross Lingual Information Access (CLIA).
	→ Evaluated the performance of Cross Lingual Search Engine 'Sandhan'.

PROJECTS

Current	**Automatic Pseudo Relevance Label Generation for Learning to Rank**
	→ Developed a feature consensus based method for automatic training data generation for Learning to Rank.
	→ Achieved better results with pseudo generated labels than human generated labels.
May-Jun'16	**Syntax based Alignment for Paraphrase Generation** (link)
	→ Implemented: "Syntax-based alignment of multiple translations: Extracting paraphrases and generating new sentences". Demo available here.
	→ It generates a word lattice (FSA) from semantically equivalent sentences that is used to extract / generate new lexical and syntactic paraphrase pairs.
Feb-Apr'16	**Diversification based Feature Selection Methods for Learning to Rank** (link)
	→ Implemented: "Exploiting Result Diversification Methods for Feature Selection in Learning to Rank".
	→ Methods: Maximal Sum Dispersion, Modern Portfolio Theory, Maximal Marginal Relevance, Greedy Search Algorithm.

Jul-Aug'15	**Theme based Clustering of Tweets** (link)
	→ Analyzed various ways of clustering tweets based on their themes.
	→ Simulated the results of approaches proposed by related papers and provided comparisons on them.
	→ Python NLTK and Scikit-learn, Ruby, R, Weka
Jan-Apr'15	**Class Connect** (link)
	→ Developed a web platform where students can share, manage and collaborate their academical resources.
	→ Went through entire software development life cycle using Agile SDLC.
	→ Ruby on Rails, Nginx, Remote Servers, Postgresql, Redis, HTML, Javascript, CSS
Sep-Oct'14	**Planet Wars - Game** (link)
	→ Developed a real time single/multi player strategy game "Planet Wars".
	→ Used client-server model and TCP/UDP Sockets for communication over LAN network.
	→ Ruby, Shoes-GUI framework

Extra Curricular Activities

⇒ **Served an NGO (Tribhuvandas Foundation)** - Stayed in rural village and educated school students people about the harmful effects of tobacco consumption.

⇒ **Organizing team member of FIRE 2015/16 conference** - Developed and am maintaining it's new website (link) with easy content management system on admin interface.

⇒ **Member of GDG DAIICT** - Contributed in organizing tech meetups and events as a member of Google Developer Group (GDG-DAIICT) for 2 years.

Past Awards

⇒ 1st prize in National as well as State competition of Mental Arithmetic (ALOHA) [2009]
⇒ 3rd prize in National drawing competition held by Department of Post , India [2008]
⇒ 1st prize in drawing competition held by Forest Department, Gujarat. [2007]

Recommenders:

⇒ Prasenjit Majumder (p_majumder@daiict.ac.in)
⇒ Jaideep Mulherkar (jaideep.mulherkar@daiict.ac.in)