Vaibhav

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Education

AUGUST 2019*
Master of Language Technologies (MLT)/ CMU
Grades: 3.93/4.0
Research Interest: NLP, Multimodal Machine Learning and Deep Learning
Select Courses: Machine Learning (ML), Deep Learning, Neural Networks for NLP, Algorithms for NLP, Machine Translation, Multimodal ML, Affective Computing, Computational Semantics, Text Mining

JUNE 2014
B.Tech in Computer Science / IIT Kanpur
Grades: 8.9/10.0
Select Courses: Real and Complex Analysis, Differential Calculus, Discrete Mathematics, Mathematical Logic, Fundamentals of Computing, Computer Organization, Data Structures and Algorithms, Programming Tools and Techniques, Theory of Computation, Randomized Algorithms, Advance Algorithms

Work / Research Experience

AUGUST 2017 – PRESENT
Research Assistant / LTI, CMU
Working under Prof. Alexander Hauptmann and Robert Frederking as part of Yahoo! InMind Project
Designed novel neural architectures for multimodal tasks like cross-modal retrieval and language grounding

AUGUST 2014 – JULY 2017
Senior Software Engineer / Samsung R&D Institute India
Created a Natural Language Understanding Engine for extracting events from user's conversations
Worked on the Context Engine which interleaves information across sentences in a conversation

MAY 2013 – JULY 2013
Research Intern / IBM Research, New Delhi
Simplified the SAP system using the techniques of program refactoring and equivalence

MAY 2012 – JULY 2012
Intern / ZipDial (acquired by Twitter), Bangalore
Designed a spam filtering algorithm to identify unwanted caller ids from huge distributed databases

Publications / Patents

- Multimodal Behavioral Markers Exploring Suicidal Intent in Social Media Videos
  A. Shah*, Vaibhav*, V. Sharma*, MA. Ismail*, LP Morency; to appear at ICMI 2019
- Improving Robustness of Machine Translation with Synthetic Noise
  Vaibhav*, S. Singh*, C. Stewart*, G. Neubig; NAACL 2019

- Improving What Cross-Modal Retrieval Models Learn through Object-Oriented Inter-and Intra-Modal Attention Networks
  P. Huang, Vaibhav, X. Chang and A. Hauptmann; ICMR 2019 (nominated for best paper award)
- Attend and Attack: Attention Guided Adversarial Attacks on Visual Question Answering Models
  V. Sharma, A. Kalra, Vaibhav, S. Chaudhary, L. Patel, LP Morency; NeurIPS 2018 Workshop on Security in ML
- Informedia@CMU: Ad-hoc Video Search with Discrete and Continuous Representations
  P. Huang, J. Liang, Vaibhav, X. Chang and A. Hauptmann; TRECVID 2018
- Apparatus and method for automatically converting note to action reminders
  US Patent US20160321617 A1, 2016
- Delta Refactoring for Merge Conflict Avoidance
  D. Saha, P. Dhoolia, M. Garg and Vaibhav, 9th India Software Engineering Conference, 2016, ACM

Academic / Projects

- Adversarial Attacks on VQA models
  Multimodal Machine Learning (Sep 2018 – Dec 2018)
- Machine Translation models for Low Resource Languages and Noisy Texts
  Machine Translation (Sep 2018 – Dec 2018)
- DeepWalk regularized Graph Auto Encoder for Link Prediction
  Machine Learning for Text Mining (Oct 2018 – Dec 2018)
- Unsupervised Bilingual Induction using GANs
  Neural Networks for NLP (Jan 2018 – May 2018)
- End-to-End Speech Recognition System for Indian Languages
  Introduction to Deep Learning (Feb 2018 – May 2018)
- Implemented HMM Word Alignment Model for en-fr translation
  Algorithms for NLP (Oct 2017 – Nov 2017)
- Explored neural and non-neural models for gene expression profiling
  Introduction to Machine Learning (Nov 2017 – Dec 2017)
- Added support for Skyline Queries in SQLite3
  B.Tech Project (Aug 2013 – Apr 2014)
- Object Pascal Compiler: supported variable and type declaration, conditional, iteration, procedures, object and inheritance features (implemented in C)
  Compiler Design (Jan 2013 – Apr 2013)
- Paraphrasing Noun Compounds using verbs and prepositions (Task 4 of SemEval-2013)
  Artificial Intelligence (Feb 2013 - Apr 2013)

Non-Academic / Personal Projects

- uMedia: Web application for recommending songs and movies (Yahoo HackU! 2012)
- SpaceShooter: android game created using unity (https://play.google.com/store/apps/details?id=com.Vaibhav)

Achievements

- Yahoo! Fellowship (Stipend and tuition in CMU, 2017-19)
- Purdue, USC, SBU PhD fellowships – not accepted (2017)
- Certified Professional in Software Competency Test at Samsung (May 2016)
- Received Employee of the Month Award for distinct performance at Samsung (Oct 2015)
- Academic Excellence Award for distinct performance at IIT-K (2010-11 and 2011-12)
- Secured a percentile rank of 99.7 in the prestigious exam of IIT-JEE (2010)