ABHISHEK BAGADE

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ACADEMIC DETAILS

Year	Degree / Certificate	University / School	CPI / %
2019 (expected)	M. Tech (Computer Science and Engineering)	IIT Bombay	8.75 / 10
2015	B. E (Computer Science and Engineering)	Dr. BAM University, Aurangabad	68 %
2011	Class XII (Maharashtra State Board)	Deogiri College, Aurangabad	70 %
2009	Class X (Maharashtra State Board)	Holy Cross High School, Aurangabad	90.30 %

FIELDS OF INTEREST

- Machine Learning, Natural Language Processing, System Administration, Software Development.

WORK EXPERIENCE

- **System Administrator**
  Dept. of CSE, IIT Bombay, Mumbai *(July 2016 - Present)*
  - Responsible for maintaining, upgrading and monitoring different software services such as e-mail, DNS, LDAP etc. used by the department
  - Configuration management of more than 400 lab systems using Puppet and Ansible
  - Implemented VLAN for CSE Department
  - Supervised the installation and maintenance of Biometric-based entry system

MAJOR PROJECTS AND SEMINAR

- **Fake news Detection** (M.Tech. Project)
  Guide: Prof. S. Sudarshan (IIT Bombay), Co-guide: Prof S. Chakrabarti(IIT Bombay) *(May 2018 - Present)*
  - **Objective:** To create an API for identifying the fake text articles and images
  - Designed and implemented custom scrapers using Scrapy framework to get structured data from from various News sources
  - Enhanced the Image+Text matching algorithm to identify images used out of (original) context
  - Used Social media analysis for estimation of source credibility
  - **Future Scope:** Improve source credibility estimates for Indian News and media sources
  - **Tools Used:** Python,Scrapy,Flask,Flutter,IBM watson API,Apache Solr,Elasticsearch,nltk

- **Studying methods for identifying fake news.** (M. Tech. Seminar)
  Guide: Prof. S. Sudarshan (IIT Bombay) *(Jan-April 2018)*
  - Studied various methods used for Fact checking from different types of Knowledge sources
  - Studied methods used to estimate source credibility and verification

- **Memory Augmented Neural Machine Translation** (Research and Development Project)
  Guide: Prof. Pushpak Bhattacharya (IIT Bombay) *(July 2017 - December 2017)*
  - Solved the problem of LSTM based NMT models drowning out the signals of infrequent words in corpus
  - Implemented Memory-Augmented NMT model with separate memory elements for infrequent words

- **Network Task manager for Linux OS** (B. E. Project)
  Guide: Prof. Madhuri Joshi *(June 2014 - April 2015)*
  - Designed and developed a Linux application for tracking network processes using Python and PyQT as front-end
  - Used GeoIP and Google Maps API for plotting the geographical path a packet takes to reach a remote server on Google maps

COURSE PROJECTS

- **API for Inter-VM communication using shared memory.** *(CS695: Cloud and Virtualization , October 2016)*
  - **Objective:** Enable communication between VMs using shared memory.
  - Built a wrapper API over IVSHMEM library to provide a shared memory interface for communication between a guest OS and the host

- **Human activity recognition using Smartphone** *(CS725: Foundations of Machine Learning, April 2017)*
  - **Objective:** To identify user activity using data from various sensors in a Smartphone
  - Modelled the problem as a multi class classification problem. Used various classifiers like Gradient boosting ,k-nearest neighbour, Random forests etc to get maximum accuracy.

- **Sentiment tracking across time** *(CS635: Web Search and Mining, November 2017)*
  - **Objective:** To track sentiment across time for a web source and identify temporal patterns
  - Used NLTK to generate sentiment scores and performed a time series analysis on generated scores across all articles in a web source

- **Keystroke detection using keyboard acoustic signals** *(CS 753: Automatic Speech Recognition, November 2017)*
  - **Objective:** To recognize a keystroke using its acoustic signals
  - Generated Data which mapped audio to keys on keyboard using custom scripts written in Python
  - Extracted MFCC feature vectors of the individual keystroke audio and trained an SVM classifier with a dictionary and language model on it with an accuracy of 87% .

- **Optimized Keyvalue store** *(CS 744: Design and Engineering of Computing Systems, November 2017)*
  - **Objective:** To construct a basic key value store and improve its performance by applying different system level optimizations
  - Analyzed the characteristics at peak utilization and did extensive profiling using Valgrind.
  - Applied various optimizations to improve the performance of the system by 200% compared to baseline system

- **Headline generation using text summarization** *(CS 726: Advanced Machine learning, April 2018)*
  - **Objective:** To generate headlines given an article using various deep learning methods
  - Modelled this problem as monolingual machine translation task . Applied various machine translation techniques like SMT, NMT and variants to generate semantically accurate and succinct summaries
  - Studied and implemented various text summarization algorithms based on RNN, CNN and Pointer Generator networks

POSITION OF RESPONSIBILITY

- **Class Representative** *(2016-18)*
  - Elected unanimously by the batch, represented batch in academic and CSEA council
  - Organized various department level sports, cultural and academic events, acted as first point of contact between faculty and students

- **Interview Coordinator** *(2016)*
  - Assisted in the placement of 1600 students within a team of 200 students over a period of 16 days
  - Was appointed as Interview Coordinator for A.T Kearney and Works Applications

- **Department Placement coordinator** *(2018-present)*
  - Organized and conducted regular coding and aptitudes tests to prepare batch for placements
  - Coordinated with institute placement team to ensure smooth functioning of the placement process

KEY COURSES

- Foundations of Machine Learning
- Automatic Speech Recognition
- Cloud and Virtualization
- Organization for Web information
- Web Search and Mining
- Advanced Machine Learning

ACHIEVEMENTS

- Placed in top 0.7 percentile in GATE-CS (March 2016)
- Ranked 2nd in state in Graduate Excellence Examination (March 2014)
- Placed 2nd in University level project competition *'Proyecto'* (April 2013)
- Maharashtra State talent search scholar (2008)