OMKAR KARANDE

karande@usc.edu | (213) 378-5624 | omkarkarande.com

Available from January 2017

EDUCATION:

University of Southern California (USC), Los Angeles, CA — Expected: December 2016
Master of Science in Computer Science — **GPA: 3.6 / 4.0**
Courses: Algorithms, Machine Learning, Information Retrieval, Web Technologies, A.I.

University of Mumbai, Mumbai, India — August 2014
Bachelor of Engineering in Computer Engineering — **GPA: 3.5 / 4.0**
Courses: Computer Networks, Computer Graphics, Microprocessors

TECHNICAL SKILLS:

Programming Languages:	(Proficient) Java, Python; (Prior Experience) C, C#
Web Technologies and Frameworks:	HTML, CSS, JavaScript, Angular2, Node.js, Bootstrap, REST
Mobile Development:	Android, Windows Phone
Databases:	MySQL, SQLite, MongoDB, InfluxDB
Source Control Tools:	Git, SVN, Perforce

PROFESSIONAL EXPERIENCE:

Akamai Technologies, Cambridge, MA (Software Developer Intern) — **May 2016 – Present**

- Designed and developed an ETL and Notification system from scratch in Python. It can keep track of huge amounts of data from multiple sources and notifies the user if any system is misbehaving.
- Designed and developed an analyzer framework which can be used to write scripts to checks for any issues in log files.
- Working on a Full-Stack application to define alerts and view failure reports using MEAN stack with Angular2 and InfluxDB

Tata Consultancy Services, Mumbai, India (Software Developer Intern) — **August 2014 – October 2014**

- Worked in a team of two to build a prototype routing mechanism in C leveraging Dual-Stack and Tunneling methods to enable inter-protocol communication over the network

ACADEMIC PROJECTS:

Facial Expression detection using Deep Neural Networks — **May 2016**

- Constructed a deep convolutional neural network in Python using Lasagne and Theano libraries
- Achieved an accuracy of 99% for keypoint detection and an accuracy of 80% on expression detection using the keypoints

Egocentric Video Summarization and Indexing — **April 2016**

- Worked on a software solution in Java to process egocentric (first-person) videos to find points of interest
- Summarized videos to about 40% of original length by eliminating redundancy using histogram and color estimation, k-means clustering, and motion compensation
- Indexed the video frames using KNN clustering to make searching for subsections using images possible.

Search engine and visualization dashboard for image data — **December 2015**

- Crawled 40GB of image and HTML data using Apache Nutch and indexed it into Apache Solr
- Developed deduplication and ranking algorithms in Python to run on the crawled image data
- Developed a visualization dashboard using D3.js to look for temporal and spatial trends in the data. Developed a REST architecture using Node.js to enable communication between the Solr index and D3 visualizations

Naïve Bayes classifier for spam and sentiment detection — **September 2015**

- Developed a generic Naïve Bayes classifier with smoothing in Python
- Worked with a labeled dataset of 22,000 emails from the Enron corpus and 25,000 movie reviews from IMDB
- Achieved an accuracy of about 98% for spam detection and 84% for sentiment detection

Python implementation of TCP/IP protocol stack *(Individual Project)* — **March 2015**

- Developed an application in Python using Raw Sockets to download the contents of the given URL
- Worked on packaging and transmitting/receiving TCP packets, sending HTTP requests to web pages, validating checksums, extracting and packaging of payloads, handling retransmission, and sequencing the packets

ISSAC – Gesture control suite for wearable devices *(Publication: http://goo.gl/Olj5ow)* — **March 2014**

- Worked in a team of three to demonstrate the use of data from sensors on wearable devices to detect gestures
- Application considered user context and a continuous stream of sensor data to provide a rich set of gestures to interact with nearby devices