# SUMEET AGRAWAL

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## EDUCATION

**University of Southern California** (CGPA: **3.5**)      MS, Computer Science (Specialization in Data Science)      **Expected May 2018**

**Vellore Institute of Technology, Vellore** (CGPA: **3.8**)      B. Tech, Computer Science and Engineering      **May 2016**

## WORK EXPERIENCE

**Graduate Researcher**                **Integrated Media System Research Centre, USC**                **Sept 2016 - Present**
- Visualizing and classifying disaster-related social media data to enhance situational awareness during disaster response.
- Estimating social POI boundaries by comparing and analysing data from different media sources over a time period.

**Data Scientist**                **Archie.AI, San Francisco**                **June 2017 - August 2017**
- Built a real-time Anomaly detection model using K-means clustering and moving average technique for classification.
- Created a Google AdWords campaign optimizer using Recurrent Neural Networks and PCA for dimensionality reduction.

**Project Software Engineer**                **IDC, Indian Institute of Technology, Mumbai**                **Jan 2016 – July 2016**
- Project Lead of "**Jellow**" **-** Developed a multilingual Alternative & Augmentative Communication (AAC) App especially for children suffering from Cerebral Palsy (difficulty in speaking) and for a general Educational purpose.
- Implemented preference algorithm and performed server-side user data analysis using PHP, MySQL and Python2.7.
- "Jellow" Application was mentioned as a news article in two leading newspapers of India, Times of India and Hindustan Times.

## TECHNICAL SKILLS

**Programming Languages:** Python2.7 (5 Years), Java (7 Years), C++ (7 Years), C, PHP, HTML5/CSS, Octave**.**
**Machine Learning Tools:** Scikit – Learn, Spark, Caffe, Weka, AWS, Hadoop, HBase, TensorFlow, Keras.
**Software and Programming Tools:** Flask, SQLAlchemy, Heroku, Ubuntu, Android Studio, Unity3D, Docker, MySQL, SQLite.

## PROJECT EXPERIENCE

**Automatic Question Generation Model (Jeopardy Game)**                **June 2017 - August 2017**
- Developed a data acquisition app to collect various questions for each type of sentences by replicating the "Jeopardy" Game.
- Used JS and BubbleBot API for the interface, Flask and python to create the server and SQLAlchemy for database creation.

**Geo-spatial Multimedia Sentiment Analysis, Information Lab at USC (Sponsors – Google, NSF, Oracle)**                **Jan 2017 - June 2017**
- Proposed a framework to normalize sentiment from multiple data types (image & text) using various ML analysis techniques.
- Applied convolutional neural networks (CNN) on Images and various text sentiment analysis models - SentiStrength, CoreNLP.

**Social Urgency Map, Information Lab at USC (Sponsors – Google, NSF, Microsoft)**                **Sept 2016 - Dec 2016**
- To Prioritize media data generated during Disaster Crisis in affected areas to help first responders make critical decisions.
- Performed analyzes on 11 different disaster types and successfully classified them into relevant or not relevant data points.
- Machine Learning techniques applied - NLTK, Word2Vec, Latent Semantic Indexing and Logistic Regression for classification.

**MedHap (Cal Hacks 3.0 Hackathon) – Among Top 5 teams**                **November - 2016**
- Designed a medical app to instantly communicate patient's skin textural abnormalities to dermatologist's for analysis.
- Used **Tanvas** Haptic SDK to generate dynamic skin textures and Watson's visual recognition for skin disease classification.

**Multilingual Voice Search (AT&T Hackathon) – Runner-ups**                **October - 2016**
- Created a smart text learning model capable of understanding multilingual voices and texts to generate any search query.
- Developed an android App using Nuance Mix Automated Speech Recognition and Natural Language Understanding Model.

## PUBLICATIONS

- Published Research Papers in **IEEE Data Science and Advance Analytics (DSAA) 2017 Conference** and in **IEEE Multimedia Big Data 2017 Conference** – Keywords are Big Data, Machine Learning, NLP, Vote Entropy, NLC, Deep Learning.
- Published 3 research articles in International Journals - https://scholar.google.com/citations?user=BOiZ_vQAAAAJ&hl=en

## HIGHLIGHTS

- Wrote an article on Generative Adversarial Networks on Medium.com which got featured under Artificial Intelligence section.
- Published 3 Machine Learning video tutorials showing various ML concepts and built models from scratch within few minutes.