

# AMIT KUMAR

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## ACADEMIC QUALIFICATION

- 1. University of Southern California, Los Angeles** Dec '19  
Masters of Science - Computer Science (**Data Science**) GPA: 3.67
- 2. Army Institute of Technology, Pune** May '16  
Bachelor of Engineering (Computer Science and Engineering)

## WORK EXPERIENCE

- 1. USC Chan Division of Occupational Science and Occupational Therapy** (Research Assistant) Current
- 2. MavenHive Technologies Pvt. Ltd., India** (Associate Engineer) Jan – Dec '17
- 3. Commvault Systems, India** (Associate Engineer) July '16 – Jan '17
- 4. Commvault Systems, India** (Software Developer Intern) Dec '15 – Feb '16
- 5. GS Labs, India** (Intern) Aug – Dec '15

## RESEARCH PROJECTS

- 1. HMM based Parts of Speech Tagger** Jan '18  
Trained Hidden Markov Model to tag words in a sentence with different parts of speech.
- 2. Pipeline for Analyzing Lesions after Stroke (PALS) (Open Source Contribution)** Mar-May '18  
PALS is a scalable and user-friendly toolbox designed to facilitate standardized analysis and ensure quality in stroke research using T1-weighted MRIs.
- 3. CIFAR-10 Image Classification using CNNs** Apr '18  
Trained CNN using tensorflow on CIFAR-10 image dataset.
- 4. Hotel Review Classification** Feb '18  
Implemented a Vanilla and Averaged Perceptron to classify hotel review as positive, negative, fake or real.
- 5. Handwritten Digits Recognition** Mar '18  
Build a single layer neural network using tensorflow to recognise handwritten digits.
- 6. Wet Soil Water Content Estimation Using OpenCV (Image Processing)** Jun - Aug '14  
Used Python and OpenCV to detect the moisture content by taking the soil image and performing operations like convert to grayscale, thresholding, pixel differentiation, Relative Wet Soil ratio.
- 7. Secure Logging-as-a-Service in Cloud** Dec '15  
A system to maintain the confidentiality and integrity of the logs generated by virtual machines in a cloud using the cryptographic methods thereby incapacitating the cloud service providers from counterfeiting them.
- 8. Mobile Banking Authentication System (using Steganography)** July – Oct '15  
Aimed at enhancing security in the communication between the client and bank systems using steganography techniques such as LSB, SLSB and Random Bit selected randomly at runtime to embed data into the image.

## INDUSTRY PROJECTS

- 1. GoFood - Largest online food ordering platform in Indonesia (600,000 bookings/day)** Jan - Oct '17
- 2. Resource Monitoring of Docker Containers (Restful API) (GS Labs, Pune)** Jan – Apr '15

## TECHNICAL SKILLS

- Programming Languages: **Python**, Ruby On Rails, Javascript, ReactJS, Java, Android, R
- Python Modules: Flask, Pandas, TensorFlow, Scikit-learn, OpenCV, Matplotlib, Numpy, Scipy
- Microcontrollers: Raspberry Pi, Beaglebone Black, CC3D Flight Controller

## AWARDS AND ACHIEVEMENTS

- Pipeline for Analyzing Lesions after Stroke (PALS). Published at Frontiers in Neuroinformatics.
- Published a research paper on Resource Monitoring Of Docker Containers in the International Journal Of Engineering Development And Research.