

Sumedh Pendurkar | Resume

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Work Experience

- **IIT Roorkee** **Roorkee**
Research Intern *May 2017–July 2017*
During the period of 2 months, I worked in the following domains:
 1. **Image Super-Resolution:** Implemented a naive Multi Image Super Resolution model. Developed a new Deep Model using a Deconvolutional Neural Networks which was better than all of the state of art methods for this problem of reconstruction. This model was trained and tested on Ucmced dataset. The results were much better than existing models.
 2. **Joined autoencoder and classification:** Conducted few experiments on joint classification with autoencoded features on Hyper-Spectral Data.
- **CoEP's Satellite Team(CSAT)** **Pune**
Member of Communications subsystem *April 2016–Present*
- **Intel® Nervana** **December 2017–Present**
Student Ambassador for AI
My responsibilities include, working on projects in association with Intel, hosting and delivering talks and blogs in space of Deep Learning and AI.

Education

Academic Qualifications

- **College of Engineering, Pune** **Pune**
Computer Engineering, CGPA: 9.13 *2015–2019*
- **Vivekanand College, Tarabai Park** **Kolhapur**
HSC, 89.7% *2013–2015*
- **DKTE's High School** **Ichalkaranji**
SSC, 95.27% *2003–2013*

Publications

- **Maximizing Cubesat telemetry throughput by adaptive channel coding**
68th International Astronautical Congress (IAC), Adelaide, Australia
Co-authored with 7 others
- **Design of a low cost Ground Station without the use of a Front-End Amplifier**
68th International Astronautical Congress (IAC), Adelaide, Australia
Co-authored with 7 others
- **Application of solar sail as a reflector for nano satellite antenna system**
68th International Astronautical Congress (IAC), Adelaide, Australia
Co-authored with 10 others

Selected Projects

- **Author of word-completion feature GNU-Nano text editor :**
 - Added a feature to GNU-Nano that completes the word under the cursor when the shortcut is pressed which on subsequent calls displays the next suggestions.
 - Supports UTF-8.
 - Accepted and released in GNU-Nano v2.7.3 by the maintainer.

○ Optical Character Recognition(OCR) for Devanagari Scripts (Incomplete):

- I worked on the classification of characters of this project while others worked on segmentation.
- As of now, basic characters segmented by this process were tested using SVM with linear kernel (130 fonts). This was testing on similar fonts and the accuracy was found about to be around 95%

○ Mouse Control using Hand Gestures

- The image was binarized and contours were found out.
- The contour with largest area was considered.
- Convex hull was found out and the angle between the finger-point and the palm point was calculated and if it was less than 90° fingers were detected.
- The points of palm were tracked and its co-ordinates were mapped to cover the entire screen resolution.
- Number of fingers denoted what action is to be taken place viz movement, left click, right click.

○ Implementing a Shared Memory on two microcontrollers

- Implemented a shared memory model on SD Card using two ARM7 Controllers.
- The algorithm used was a variation of Dekker's algorithm using two hardware lines for handshaking.
- This resolved problem of deadlocks and starvation.

○ Testing of various protocols and interfacing with various peripherals on microcontroller

Specialized skills

○ Programming:

- Proficient : C, Python
- Intermediate : BASH scripting
- Learner : C++, Assembly, Octave/Matlab, Java, Javascript

○ Tools: Git, Scons, python regex(re), Linux utilities, Django, Keras, Opencv, GTK, scipy, L^AT_EX

○ Other skills: Image processing, Machine learning, Deep Learning.

○ Languages: English, Hindi, Marathi

Achievements

- Idea selected for Ministry of Road and Railways in the Smart India Hackathon'18
- Finished 58/4528 in the Deep Learning Challenge#1 hosted by Hackerearth
- Felicitation at the hands of Prime Minister Mr. Narendra Modi for the successful launch of 'SWAYAM' satellite
- National Talent Search Holder

Extra-curricular activities

○ Mindspark

- Volunteer, Co-ordinator, Event Head

CoEP

July 2015–September 2017

○ Badminton

- Player
- Runners up at state level for school
- Won the zonals and selected for state level
- Won the district level multiple times

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