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 on research 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 Ucmerced 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 rather than independent autoencoder and classifier.
- **CoEP's Satellite Team(CSAT)** — **Pune**
  Software Development Engineer — *April 2016–Present*

Education

Academic Qualifications

- **College of Engineering, Pune** — **Pune**
  Computer Engineering, CGPA: 9.20 — *2015–2019*
- **Vivekanand College, Tarabai Park** — **Kolhapur**
  HSC, 89.7% — *2013–2015*
- **DKTE's High School** — **Ichalkaranji**
  SSC, 95.27% — *2003–2013*

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 Devanagri Scripts (Incomplete):**
  - I worked on the classification of characters of this project while others worked on segmentation.
  - As of now, basic characters(only ..) 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, LaTeX
- **Other skills:** Image processing, Machine learning, Deep Learning.
- **Languages:** English, Hindi, Marathi

Achievements

- Felicitation at the hands of Prime Minister Mr. Narendra Modi for the successful launch of 'SWAYAM' satellite
- National Talent Search Holder
- Scored 208 in JEE Mains and was ranked 130th in state

Extra-curricular activities

- **Mindspark** **CoEP**
  Volunteer, Co-ordinator, Event Head *July 2015–Present*
- **Badminton**
  Player –
  - Runners up at state level for school
  - Won the zonals and selected for state level
  - Won the district level multiple times