Sumedh Pendurkar | Resume

College of Engineering, Pune, Wellesely Road, Shivajinagar, Pune, 411005 – Maharashtra – India

+91 9011741004 • sumedh.pendurkar@gmail.com • GitHub Username: sumedh.pendurkar

Work Experience

- **Goldman Sachs** — **Banglore**
  Summer Technical Analyst — *May 2018–July 2018*
  Worked on UI/UX part of web application using Angular 6
- **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 Ucmerced dataset. The results were much better than existing models. Also implemented it in a unsupervised way using zero shot learning.
  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**
  Student Ambassador for AI — *December 2017–Present*
  My responsibilites 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: 9.12 — *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

- **Visual Question Answering Systems (Ongoing)**
  - Feature extraction from images using fc7 features from VGG model
  - Use sequence to sequence modelling with the words encoded as one hot vectors and CNN features.
- **Implementating various models for person reidentification**
  - Implemented these non-trivial networks using keras custom layers
- **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 (Ongoing)**
  - I worked on the classification of characters and segmentation of words.
  - As of now, basic characters segmented were tested using SVM with linear kernel (130 fonts). Testing on similar fonts and the accuracy was found about to be around 95%.
  - Having a robust segmentation techniques would yeild higher results for the entire document.
- **Mouse Control using Hand Gestures**
  - Contours were used to find out the hand region
  - Convex hull was used to find out number of fingers raised depending on the angle between finger points and palm points.
  - 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 to solve the problem of deadlocks and starvation.
- **Testing of various protocols and interfacing with various peripherals on microcontroller**

Specialized skills

- **Programming:**
  - Proficient : C, Python
  - Learner : BASH scripting, Assembly, Octave/Matlab, Javascript
- **Tools:** Git, Linux utilities, Keras, Opencv, GTK, scipy, Angular, pandas, LaTeX
- **Other skills:** Computer Vision, Machine learning, Deep Learning.
- **Languages:** English, Hindi, Marathi

Achievements

- Deloitte Innovation Award, Ministry of Road and Railways, Smart India Hackathon 2018
- 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** **CoEP**
  Volunteer, Co-ordinator, Event Head *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