Amandeep Kumar *Curriculum vitae*

CONTACT INFORMATION

Shivpuri, Ramchandrapur.
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Welcome to my Homepage

RESEARCH INTERESTS

Computer Vision, Deep Learning, Machine Learning, Pattern Recognition, Image Processing.

PRESENT POSITION

Pursuing Bachelor of Technology(B.Tech)($4^{rd}Year$).

EDUCATION

West Bengal University of Technology, Kolkata (India) 2018
University: West Bengal University of Technology

- Information and Technology(IT)
- YGPA: 8.36/10 (till $6^{th}Semester$)

Sarvodaya Senior Secondary school, Kota, Rajasthan (India) 2017
- Central Board of Secondary Education(12^{th} Standard)
- Aggregrate: 82.2%

Alphonsa School, Siliguri, West Bengal (India) 2015
- Indian Certificate of Secondary Education (10^{th} Standard)
- Aggregrate: 90.6%

CONFERENCE PAPERS

1. **Amandeep Kumar***, Shuvozit Ghose*, Pinaki Nath Chowdhury, Partha Pratim Roy, Umapada Pal, "UDBNET: Unsupervised Document Binarization Network via Adversarial Game", *International Conference on Pattern Recognition* **(ICPR)**, Milan, 2020. [Github] [arXiv]

2. Ayan Kumar Bhunia, Shuvozit Ghose, **Amandeep Kumar**, Pinaki Nath Chowdhury, Aneeshan Sain, Yi-Zhe Song , "MetaHTR: Towards Writer-Adaptive Handwritten Text Recognition", *IEEE Conference on Computer Vision and Pattern Recognition* **(CVPR)**, 2021. [arXiv]

3. S. P. Sharan, Sowmya Aitha, **Amandeep Kumar**, Abhishek Trivedi, Aaron Augustine, Ravi Kiran Sarvadevabhatla, "PALMIRA: PAlm Leaf ManuscrIpt Region Annotator A Deep Deformable Network for Instance Segmentation of Dense and Uneven Layouts in Handwritten Manuscripts", *International Conference on Document Analysis and Recognition* **(ICDAR)**, 2021. [Website]

4. Ayan Kumar Bhunia, Aneeshan Sain, **Amandeep Kumar**, Shuvozit Ghose, Pinaki Nath Chowdhury, Yi-Zhe Song, "Joint Visual Semantic Reasoning: Multi-Stage Decoder for Text Recognition", *International Conference on Computer Vision* **(ICCV)**, 2021. [arXiv]

SCIENTIFIC RESEARCH EXPERIENCE

APRIL, 2020 TO PRESENT

Role: Research Intern
Advisor: Prof. Yi-Zhe Song, Ph.D.
Professor of Computer Vision and Machine Learning, University of Surrey.
Research Directions: Sketch Based Image retrieval,
Handwritten Text Recognition.

April, 2020 to Oct, 2020
Role: Research Intern
Advisor: Prof. Partha Pratim Roy, Ph.D.
Faculty of CSE, IIT Roorkee, India
Research Directions: Content based image retrieval, thumbnail generation, Sign language recognition, Document image binarization.

Nov, 2020 to Feb, 2021
Role: Research Intern
Advisor: Prof. Ravi Kiran Sarvadevabhatla , Ph.D.
Faculty of CSE, IIIT Hyderabad, India
Research Directions: Document Image Understanding, Skeleton-based Human Activity Understanding.

Familiarity with DL

(i) CNN	(ii) Convolutional LSTM model	(iii) RNN/LSTM
(iv) DC-GANs	(v) GANs for Image to Image Trans.	(vi) Seq2Seq
(vii) Siamese Network	(viii) Attention based Model	(ix) VAE
(x) Domain Adaptation	(xi) Semantic Segmentation	(xii) Style Transfer

Relevant Projects

- UDBNET: Unsupervised Document Binarization Network via Adversarial Game [Github] [**Tools**: Python/Pytorch]
- Implementation of the machine learning algorithm from scratch python [Github] [**Tools**: Python]
- Implementation of the paper "Attention-Aware Polarity Sensitive Embedding for Affective Image Retrieval" [**Tools**: Python/Pytorch]

Achievements

- Certificate of merit for outstanding performance in the "ThinkAI :The IEEE machine learning summit 2019"
- Best Party winner position in the event of youth parliament,edge(2019).
- 1st prize winner in painting competition organized by "SCHOOL OF FINE ARTS". (in 5th standard).
- Certificate of participation of volleyball in the annual school function (in btech standard).
- first prize winner of science exhibition in the annual school function (in 6th standard).
- 1st Prize winner in interschool quiz(in 6th standard)
- Green belt in kick boking

Relevant Coursework

(i) Linear Algebra & Diff. Eqn.	(ii) Statistics & Probability	(iii) Control System
(iv) Digital Image Processing	(v) Digital Signal Processing	(vi) Signals and System

Technical Skills

- Programming Languages: C, Java, MATLAB, Python.
- Deep Learning Framework: Pytorch(**Confident**).
- Hardware Exposure:Arduino.
- Mathematics: Linear-algebra, Probability, Statistics.
- Miscellaneous: OpenCV, LIBSVM library, NLTK library.