Syed Ashar Javed

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Education

2018 – 2019 **M.S. in Computer Vision**
Carnegie Mellon University, Pittsburgh
Incoming fall '18 student.

2012 – 2016 **B.Tech. in Computer Science**
Jamia Millia Islamia, New Delhi
9.07/10 (First Division with Honors)

Research Papers and Preprints

1. Javed, S. A., Achary, S., Vinjamoori, A., & Gandhi, V. (2018). Learning to stabilize videos in real-time. *To be submitted to Eurographics 2019 or CVPR 2019.*
2. Javed, S. A., Saxena, S., & Gandhi, V. (2018). Learning unsupervised visual grounding through semantic self-supervision. *Under review at AAAI 2019.*
3. Gupta, K., Javed, S. A., Gandhi, V., & Krishna, K. M. (2018). Mergenet: a deep net architecture for small obstacle discovery. *ICRA 2018.*
4. Javed, S. A. & Nelakanti, A. K. (2017). Object-level context modeling for scene classification with context-cnn. *CVPR 2017, SUN workshop.*
5. Ahmad, M., Ahmad, F., & Javed, S. A. (2017). Cryptanalysis of an asymmetric image cryptosystem based on synchronized unified chaotic system and cnn. In *Proceedings of the international conference on intelligent computing and communication.*

Work Experience

Relevant Work Experience

March '17 – April '18 **Research Assistant.** CVIT lab, IIIT Hyderabad

- Unsupervised learning of concepts for visual grounding of phrases
- Detecting small obstacles on road for autonomous vehicle applications
- Online video stabilization

June '16 – Feb '17 **Research Engineer.** Cube26 Pvt Ltd, New Delhi

- Real-time neural style transfer
- Incorporating context to improve scene classification
- Online spam detection using passive-aggressive classifiers for mobile devices
- Recommendation system using Bayesian optimization and LDA
- Spoken language detection in speech signals

Nov '16 – Dec '16 **Freelance Computer Vision Developer.** Netra Inc, Remote

- Built a deep neural architecture for logo recognition in social media images

June '14 – July '14 **Summer Intern.** Reliance Industries Pvt Ltd, Dahej

- Built a vision based fire detection system for open industrial setting

Work Experience (continued)

Other work experience

Dec '15 – Jan '16 **Product Developer.** Servify, Mumbai

- Designed the backend architecture and developed server-side APIs on Node.js

May '15 – July '15 **Summer Intern.** Mahindra Retail Pvt Ltd, Bengaluru

- Worked on the Gamification of BabyOye-Mahindra website

Feb '15 – April '15 **Backend Developer.** Whomely Inc, New Delhi

- Developed web-based solutions using Django/Python

Key Projects

- **Real-time style transfer of artistic images using separate loss network and transformation network**

  Implemented multiple papers in the neural art domain (perceptual losses by Johnson et al and instance normalisation by Ulyanov et al) for real-time stylization of images. Code deployed on production.

- **Bayesian optimization for offer recommendations**

  Built a Bayesian optimizer based on a GP prior and Thompson sampling for recommending offers to customers.

- **Event recognition in complex videos using multi stream CNNs**

  Explored fusion techniques for the spatial (static frames) and temporal (stacked optical flow) streams from a CNN as proposed in the paper by Simonyan et al. Also modeled temporal information in videos using LSTMs.

- **Understanding the role of context in object recognition**

  Used a conditional random field to model geometric, semantic and spatial context to improve object recognition as done by Rabinovich et al. Also evaluated GIST for global, scene-level contextual priming.

- **Localization and identification of street view house numbers in Gmail captchas**

  Used blob extraction techniques on Gmail captchas for localization of street view numbers and then trained a deep CNN as an end-to-end system on SVHN dataset to automate captcha reading.

- **Image segmentation through Normalized Cuts**

  Implemented the normalized cut algorithm for segmentation.

Achievements

- Represented the university at a conference hosted by the National Innovation Foundation (NIF) at the President's house
- Invited to the INSPIRE Science Camp organized for the top 1% students in India
- Top 1.5 percentile in All India Engineering Entrance Examination (AIEEE)
- International Informatics Olympiad:- First level- State rank :10, All India rank: 68, Final level- State rank: 47, All India rank: 373