# Syed Ashar Javed

- ✉ sajaved@andrew.cmu.edu
- 🌐 stillbreeze.github.io/
- 🔗 www.linkedin.com/in/linkedinashar
- ⭕ https://github.com/stillbreeze

## Education

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| 2018 – 2019 | 🔖 | **Carnegie Mellon University, Pittsburgh**<br>**M.S. in Computer Vision** |
| 2012 – 2016 | 🔖 | **Jamia Millia Islamia, New Delhi**<br>**B.Tech. in Computer Science** |

## Work Experience

### Relevant Work Experience

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

– Formulated a self-supervised approach for the problem of unsupervised visual grounding of phrases and obtained state-of-art results on multiple datasets.

– Trained a small obstacle segmentation model for autonomous vehicles using as few as 135 frames by exploiting structure in the road scene data.

– Formulated a Gaussian Process based synthetic data generation scheme and built an online prediction model for real-time video stabilization and virtual camera simulation.

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

– Implemented multiple papers in the neural art domain (perceptual losses by Johnson et al and instance normalization by Ulyanov et al) for real-time stylization of images. Models deployed to tens of thousands of devices.

– Incorporated object-level contextual information to improve scene classification in CNNs. Also conducted ablative and other qualitative analysis to understand how the model differs from previous models.

– Refined online spam detection and classification models for SMS on mobile devices using passive-aggressive. Models deployed to tens of thousands of devices.

– Explored LDA and Bayesian Optimization using GP priors & Thomson Sampling for recommendation systems.

– Benchmarked LSTM models for spoken language identification in speech signals obtained from videos.

**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.

### 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.

# 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.*

# Key Academic Projects

**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 two-stream CNN 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 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 image segmentation.