**Papers:**

1. Bringing consistency to plant stress phenotyping through an explainable deep machine vision framework.2017. Sambuddha Ghoshal , David Blystone, Asheesh K. Singh, Baskar Ganapathysubramanian, Arti Singh , Soumik Sarkar. (submitted)

2. Hyperspectral band selection using genetic algorithm and support vector machines for early identification of charcoal rot disease in soybean. 2017. Koushik Nagasubramanian, Sarah Jones, Soumik Sarkar, Asheesh K. Singh, Arti Singh, Baskar Ganapathysubramanian. (submitted)

3. A real-time phenotyping framework using machine learning for plant stress severity rating in soybean. 2017. HS Naik, J Zhang, A Lofquist, T Assefa, S Sarkar, D Ackerman, A Singh, Asheesh K Singh, Baskar Ganapathysubramanian. Plant Methods. doi: 10.1186/s13007-017-0173-7

4. Computer vision and machine learning for robust phenotyping in genome-wide studies. 2017. J Zhang, HS Naik, T Assefa, S Sarkar, RVC Reddy, A Singh, B Ganapathysubramanian, AK Singh. Scientific Reports-Nature 7. doi:10.1038/srep44048

5. Machine Learning for High-Throughput Stress Phenotyping in Plants. 2016. Singh, Arti, B Ganapathysubramanium, AK Singh and S Sarkar. Trends in Plant Science 21(2): 110-124.

6. An end-to-end convolutional selective autoencoder approach to Soybean Cyst Nematode eggs detection. 2016. A Akintayo, N Lee, V Chawla, M Mullaney, C Marett, AK Singh, Arti Singh, G Tylka, B Ganapathysubramaniam, S Sarkar. . arXiv:1603.07834.

**Posters presented:**

1. Zhang J., Naik H.S., Assefa T., Sarkar S., Reddy R.V., Singh A., Ganapathysubramanian B. and Singh A.K. Computer vision and machine learning for robust phenotyping in genome wide association and prediction analysis in soybean. 2017. R.F. Baker Plant Breeding Symposium, Ames, IA.

2. A Akintayo, N Lee, V Chawla, MP. Mullaney, CC. Marett, A Singh, A Singh, G Tylka, B Ganapathysubramanian, S Sarkar. End-to-end convolutional selective autoencoder for Soybean Cyst Nematode eggs detection. Phenotypic prediction: image acquisition and analysis conference - February 23-25, 2016 –Iowa State University. Poster was awarded as the best graduate student poster in the conference.

3. Jones S, AK Singh, S Sarkar, B Ganapathysubramanian, D Mueller, A Singh. Hyperspectral disease signatures for detection of charcoal rot in soybean. CIMMYT 4th International Plant Phenotyping Symposium, December 13-15, 2016. Texcoco, Mexico.

4. Ghosal S, D Blystone, H Saha, D Mueller, B Ganapathysubramanian, AK Singh, A Singh, S Sarkar. An Automated Soybean Multi-Stress Detection framework using Deep Convolutional Neural Networks. CIMMYT 4th International Plant Phenotyping Symposium, December 13-15, 2016. Texcoco, Mexico.

**Invited Talk:**

ASA, CSSA and SSSA, International Annul Meetings. Oct 22-25, 2017, Tampa, Florida, USA.“Towards high throughput stress phenotyping in soybeans using machine learning” on session topic – C-08 Plant Genetic Resources- Phenotyping Plant Genetic Resources to Support Climate Smart Agriculture ASA, CSSA and SSSA, International Annul Meetings. Oct 22-25, 2017, Tampa, Florida, USA