Paper Title\*

Title: Times New Roman, 14 point bold font, center, capitalize only the first letter of the first word)

**Wei Guo**\*1, **Soumik Sarkar**2,3

(Times New Roman, 12 point bold font, center, author's first name, initials and surname)

1. *Graduate School of Agricultural and Life Sciences, The University of Tokyo, Japan;*

2. *Department of Mechanical Engineering, Iowa State University, Ames, USA*

3*. Department of Computer Science, Iowa State University, Ames, USA*

(Times New Roman**,** 11 point, italics font, center, organization and address of author(s), the corresponding author should be identified with superscript \*)

**Keywords:** image processing, machine learning, plant phenotyping, cyber agricultural system

(Times New Roman, 11 point, between 3 and 5 keywords or key phrases, separated by commas)

**Abstract:** Today, efficient and cost-effective sensors as well as high performance computing technologies are looking to transform traditional plant-based agriculture into an efficient cyber-physical system. The easy availability of cheap, deployable, connected sensor technology has created an enormous opportunity to collect vast amounts of data at varying spatial and temporal scales at both experimental and production agriculture levels. Therefore, both offline and real-time agricultural analytics that assimilate such heterogeneous data and provide automated, actionable information is a critical need for sustainable and profitable agriculture.

(Times New Roman, 11 point, no more than 2 pages long, with references)

**References** (format according “Chicago Manual of Style 17th edition (author-date)”,

Cite the paper in Chicago style. Like here (Guo et al. 2021; Ghosal et al. 2019).

Ghosal, Sambuddha, Bangyou Zheng, Scott C. Chapman, Andries B. Potgieter, David R. Jordan, Xuemin Wang, Asheesh K. Singh, et al. 2019. “A Weakly Supervised Deep Learning Framework for Sorghum Head Detection and Counting.” *Plant Phenomics* 2019: 1–14. https://doi.org/10.34133/2019/1525874.

Guo, Wei, Matthew E Carroll, Arti Singh, Tyson L Swetnam, Nirav Merchant, Soumik Sarkar, Asheesh K Singh, and Baskar Ganapathysubramanian. 2021. “UAS-Based Plant Phenotyping for Research and Breeding Applications.” *Plant Phenomics* 2021 (Article ID 9840192): 21. https://doi.org/https://doi.org/10.34133/2021/9840192.

(You can add more detail to the abstract or simply paste your poster here as the second page. All presenters, including oral and poster presentations, are encouraged to submit a poster (or even a “Pipeline flow chart”) together with this extended abstract.)

