

Precision Farming: There Really Is More Than Corn In Indiana

Edward J. Delp

*Video and Image Processing Laboratory (VIPER)
School of Electrical and Computer Engineering
School of Biomedical Engineering
Purdue University
West Lafayette, Indiana*

In this talk I will describe recent work in image-based plant phenotyping. Estimating the properties of plants (i.e. phenotyping) is critical to predict its viability and biomass. I will describe work we are doing in estimating phenotypic traits such as plant locations, number of plants per plot, Leaf Area Index, canopy cover, leaf length and width, and the number of leaves per plant. Our target crop is Sorghum. We are doing field-based image acquisition using UAVs and ground-based sensing. We analyze plant properties in real field conditions instead of in a controlled environment such as a greenhouse. The goal of this research is to develop a set of tools to precisely and quickly phenotype hundreds of thousands of plants on a daily basis.



Edward J. Delp is the Charles William Harrison Distinguished Professor of Electrical and Computer Engineering and Professor of Biomedical Engineering at Purdue University. His research interests include image and video processing, image analysis, computer vision, image and video compression, multimedia security, medical imaging, multimedia systems, communication and information theory. Dr. Delp is a Fellow of the IEEE, a Fellow of the SPIE, a Fellow of the Society for Imaging Science and Technology (IS&T), and a Fellow of the American Institute of Medical and Biological Engineering. In 2004 Dr. Delp received the Technical Achievement Award from the IEEE Signal Processing Society for his work in image and video compression and multimedia security. In 2008 he received the Society Award from IEEE Signal Processing Society (SPS). In 2016 Dr. Delp received the Purdue College of Engineering Mentoring Award for his work in mentoring junior faculty and women graduate students.