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ZOOM:
https://go.ufl.edu/5g8w7ep

Scaling Data Collection for Precision Agriculture: Challenges and Innovations

DR. STEFANO CARPIN

The increasing demand for sustainable and resilient agricultural practices has fueled expectations that robotics and AI will play a pivotal role in revolutionizing the industry. While significant advancements have been achieved in both academic research and the corporate sector, numerous critical challenges remain unresolved. In this talk, I will present our recent work on addressing one of these challenges, i.e., developing efficient, scalable data collection methods for detecting and managing water stress in California high-value perennial crops. I will discuss the computational and technical hurdles we faced in this context, and present some solutions that we have developed and deployed in the field. Finally, I will highlight promising new research directions aimed at reducing barriers to entry for end users, making these technologies more accessible and cost-effective for farmers and agricultural stakeholders.

BIO

Stefano Carpin is a Professor in the Department of Computer Science and Engineering and the Associate Dean for Research and Graduate Programs in the School of Engineering at the University of California, Merced. He received his “Laurea” and Ph.D. degrees in electrical engineering and computer science from the University of Padova (Italy) in 1999 and 2003. From 2003 to 2006, he held faculty positions at Jacobs University Bremen, in Germany. Since 2007, he has been with UC Merced, where he established and leads the UC Merced Robotics laboratory. His research focuses on mobile and cooperative robotics for service tasks and robot algorithms, with an emphasis on applications to precision agriculture and sustainability. Currently, he serves as UC Merced site director for the NSF Engineering Research Center for the Internet Of Things for Precision Agriculture.

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