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Dwight Nicholson Medal for Outreach (2019): A Brief Tour of the Zooniverse: How Crowdsourcing Science is Solving Big Data Problems in Research

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Citizen science - the involvement of hundreds of thousands of people in the research process - provides a radical solution to the challenge of dealing with the greatly increased size of modern data sets. Zooniverse.org is the most successful collection of online citizen science projects which have enabled over two and a quarter million online volunteers to contribute to over 300 research projects spanning disciplines from astronomy to zoology. Starting from the original Galaxy Zoo project, I will briefly describe the Zooniverse platform and some of the results to date from the Zooniverse collection of online projects in the context of new approaches to combining machine learning with human classifications. I will then discuss future developments of the Zooniverse platform with the ultimate goal of producing a system that most efficiently balances human and machine classifications. Such efforts are critical in coping with data from the next generation of large-scale experiments, including the Vera Rubin Observatory.