SDO Exploration And Research Community for Heliophysics (SEARCH): An experiment on using applied AI research to educate a diverse workforce

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Oral
(Invited Speaker)

Taking advantage of the rapid advance of AI requires the creation of learning opportunities that address the unique challenges posed by such a rapidly changing field. They: 1. Cannot be limited to the undergraduate and graduate level, because people at all career stages and walks of life are interested and can benefit from AI. 2. Cannot be designed to cater only to "elite" students, because one of the biggest potentials of AI is the empowerment of those that are underprivileged. 3. Can take advantage on highly accessible open frameworks, online resources, and innovative coding practices. The SEARCH project is an experiment on developing an educational program aiming to address these three points. It involves 18 volunteers with diverse educational backgrounds including community college, 4-year college, high school, and white collar professional. Together, we have developed a self-supervised search engine that enables a content-based image retrieval on SDO/AIA. In this presentation we will discuss the structure of the program, the technical objectives and results, the lessons learned moving forward, and how SEARCH can be used as a template for future programs that merge education and research.

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