

Letter of Intent for Snowmass2021: CEF4 Physics Education Topical Group

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Coherent Vision for Enabling Software Training in HEP

S. Malik, University of Puerto Rico Mayaguez
S. de Jong, Radboud University, The Netherlands
R. Ruchti, University of Notre Dame

Abstract:

Software skills are an integral part of the toolkit of any successful HEP experimentalist. And maximizing the science from the hardware investments in current and future projects relies critically on it. It is also a skillset that is transferable in case of non-HEP career evolution of people trained in HEP.

Though software training is now key in many research fields, most users learn software skills only after joining a research program. Individual universities do not uniformly provide such training to students, prior to their beginning their Ph.D. research. Many domain-specific aspects add challenges to the learning process. Embarking on a HEP-specific path presents its own experiment-specific software environment challenges. No one size fits all while imparting related trainings.

A possible solution in HEP is to exploit our large-scale community structure and organize training within our research domains. Efforts like IRIS-HEP, FIRST-HEP and HEP Software Foundation have taken strong and effective steps in this direction and impart training to those within the field and ancillary fields. Snowmass can play a role in bringing together a focus on these efforts to foray into sustainability and scalability and initiate learning early on in the process of preparing a software-equipped future particle physicist.