

Standing on the shoulders of giants: Bridging the divide of weather radar processing through open-source software, academic research and pragmatic application of private sector development

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The field of Meteorology has continued to grow over the last decade. This growth has spurred innovation at the traditional academic and research facilities, as well as private industry. The ability to store and distribute large amounts of data has garnered more attention on methods to process and refine the data. Weather radar data is one such example. Data are arguably easier and timelier to access. Though it has long presented challenges, with various varieties and formats. Many tools have been developed to process and visualize these data, many in the flourishing open source software community. Well-maintained open-source software, such as PyART and the CSU Radar Tools packages to name a couple, lower the substantial entry hurdle to process publicly available radar data. Tools such as these have been leveraged heavily by academic and public and private research institutions, compressing the time that is required to produce peer reviewed research articles through the focus on scientific investigation rather than software fumbling.

When used in conjunction with peer-reviewed, published scientific research, the software tools help to bridge the gap from inception of research ideas to end products. These products may be disseminated for public use to save life and property. Private development leveraging these ideas provides business efficiency and reduces to-market time. A myriad of potential products including travel and delivery logistics, hyper-local forecasts and observations, and insurance claims advisement provide value-add support. Beyond these exist numerous other possible use cases. The success stories for how all these gaps are bridged are often overlooked. Presented here is one such success story.

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