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Reflections on Penn State's Embedded Geovisual Analytics Course: Travels to the European Union

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Abstract:

Penn State's Online Educational Program in GIS and Spatial Data Science offers unique opportunities for educational advancement and cultural enrichment to its online students. One such opportunity is "Challenges in Global Geospatial Analytics," a course that leverages geospatial technology with real-world experiences and provides cultural engagement through international travel. Offered summer 2023, this course involved eight graduate students enrolled in the Master of Geographic Information Science or Spatial Data Science program joined by twelve undergraduates from Penn State's College of Earth and Mineral Science (EMS). The twelve undergraduates were embedded in this course stemming from the Center for Advancement of Undergraduate Studies and Experience (CAUSE), which is EMS' signature study abroad/study away program that promotes undergraduate research and travel components through sponsored courses. These twenty students joined together for a two-week mapping adventure to the European Union. During part of the two-week travel, Penn State students collaborated with international graduate students studying cartography at the Vienna University of Technology. Students were divided into groups where the goal was to develop a geographic visualization solution that analyzed spatio-temporal patterns in global COVID-19 data in response to a request from a non-profit humanitarian-based organization. The non-profit organization requested a visualization solution to help allocate funds in support of COVID-19 relief distribution. Each group produced novel approaches to the problem. Outcomes included students presenting their analysis in an academic setting, developing cross-cultural connections, working in groups to analyze the COVID-19 data, and applying geovisual analytics methods to visualize patterns in COVID-19 data over space and time.

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