

MS-GIST Projects Fall 2023

Thursday, November 30

** There will be 5 minute breaks between each back-to-back presentation to facilitate transitions in Zoom.*

*** Zoom links are available on request. Please contact Andrew Grogan - atgrogan@arizona.edu*

Date/Time	Presentation Title	Student Name
11/30/23 09:00 - 09:25 AM	GIS Battlefield Analysis: Digitizing & Validating Eyewitness Accounts of the 1793 Battle of Kaiserslautern, Germany	Gregory Myers

GIS Battlefield Analysis: Digitizing & Validating Eyewitness Accounts of the 1793 Battle of Kaiserslautern, Germany

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11/30/23, 09:00 - 09:25 AM

Abstract:

Present day inhabitants of Kaiserslautern and the surrounding area are largely unaware of a battle that occurred in 1793 between France and Prussia, which witnessed nearly 70,000 soldiers fighting over a region that belonged to neither nation. This study provides an analysis of a study area located in the vicinity of present-day Kaiserslautern, Germany to assess key moments in a series of smaller skirmishes. Two eyewitness account documents provide the information necessary to perform this research. The first document is an encyclopedia of Prussian battles from 1741 – 1815. The second document is a diary which complements and validates the encyclopedia. This research uses data from digital elevation models, in conjunction with known locations of French and Prussian forces as based on eyewitness accounts, to create an array of visualization techniques that include least cost modeling, viewshed, and line of sight, which rely heavily on topographic features such as water and slope. The results demonstrate how the Prussians, although hundreds of kilometers away from Prussia, were able to defeat the French in a battle that occurred 230 years ago. Additionally, the findings indicate that although the French army was much closer to their home borders, that an advantage was never gained due to the diverse battlefield topographic features.

Keywords: eyewitness account validation, least cost model, viewshed, line of sight, historical analysis, Kaiserslautern