



Student Name Ali Raza Student ID \*\*\*\*\*

Doctoral  Degree in Computer Science

Thesis Title:

Understanding and Supporting Equity in Science Classrooms with Visual Learning Analytics:  
A Novel Approach Using Student Electronic Exit Tickets (SEETs)

Have you performed research involving human subjects which requires approval from the Institutional Review Board (IRB)?  Yes  No

IRB Protocol Number 20-0493

Have you used live animals, animal tissue, or observational animal work which requires approval from the Institutional Animal Care and Use Committee (IACUC)?  Yes  No

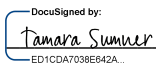
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Attach the final copy of thesis/dissertation for committee review. While formatting changes may be requested by the Graduate School, the content of the attached document should be final.



**Approvals:**

Committee Chair Name Tamara Sumner

Signature  Date Signed 12/16/2022

Committee Member Name William Penuel

Signature  Date Signed 12/16/2022

The final copy of this thesis has been examined by the signatories, and we find that both the content and the form meet acceptable presentation standards of scholarly work in the above-mentioned discipline.