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Discrete Morse Theory and Some Applications

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DISCRETE MORSE THEORY AND SOME APPLICATIONS

Conner Basich

Mentor: John Shareshian

In this paper we introduce a novel discrete Morse theoretic proof of a question posed by Ehrenborg and Hetyei. Next, we revisit and discuss the main result of Hamstrom and Jerrard. Finally, we discuss the difficulties in using their scheme to prove a conjecture posed by Adiprasito and Benedetti.