F26.36 Using AI to Assist with Image Analysis of Wound Healing Models

Overview
Our Tissue Engineering and Regenerative Medicine Laboratory (TERM Lab) at NAU works on a number of models and systems. One specific area of interest for us is skin wound healing. We have developed an in vitro (bench top) skin wound healing model in which we plan to apply AI tools to evaluate wound closure and the test different promoters of wound healing as well as compounds that inhibit wound healing. Additionally, we plan to apply AI to histology and immunohistochemistry samples from pre-clinical wound healing models to assess parameters of wound healing in skin such as epidermal thickness, fibrous capsule presence, inflammation, and microvessel density.

What the student will DO and LEARN
The student will learn about skin wound healing and the different models (e.g. bench top and pre-clinical animal models) that are used to evaluate wound healing and the test different wound healing technologies. Additionally, in our lab we investigate how certain environmental contaminants such as arsenic and depleted uranium negatively impact skin wound healing. The TERM laboratory is well equipped and has a trained team in place to help onboard the student and will work alongside the student to ensure research success.

Additional benefits
They will have a more cogent understanding concerning how plants and animals are evaluated for listing as threatened or endangered.

Additional qualifications
n/a

Time commitment
6 hrs/week for 30 weeks