Capstone Project: Spring 2025

# RZ Editor: A Python-Based Hex Editor with Sector Navigation

## Bachelor of Science in Cyber Security

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# 🔍 Project Overview

RZ Editor is a lightweight, open-source hex editor developed in Python. It enables sector-based navigation, making it ideal for digital forensics, malware analysis, and data recovery tasks.

# 🧠 Motivation

- Existing tools like WinHex & 010 Editor are powerful but expensive  
- Free tools like HxD lack sector-level analysis  
- Students and analysts need a cost-effective, accessible solution

# 💻 Key Features

- 🧾 Hex + ASCII Viewer  
- 🧩 512-Byte Sector Navigation (Next, Previous, Jump to Sector)  
- 🔍 Byte-level Search (Hex/Text, Case-Sensitive)  
- 🖊️ Hex Editing with Undo/Redo  
- 📂 Cross-platform GUI (Tkinter)

# 🚀 Impact & Value

- 📚 Educational – Ideal for students learning file forensics  
- 🔓 Open Source – Freely available and extensible  
- 🛠️ Practical Tool – Supports real-world cybersecurity scenarios