

# Project 2 – Data Carver

**Programming Language:** Python 3

## Executive Summary:

The project aims at carving files of various categories from raw disk images. Data carvers are mainly used in Digital forensics to examine and analyze digital evidence from the crime scene.

The deliverables are the carved files along with the Md5 hashes of those files stored in a text file.

## Technical details:

The program `data_carver.py` takes the image data as input, from which the files have to be carved.

=> The data carver supports three file types namely, JPG, PNG, PDF. However further file-types can be added by denoting the magic numbers for the required filetypes in the program.

=> The program utilizes the concept of multi-threading to carve three different filetypes at the same time (Parallel processing).

=> The program usually takes more time for processing in spite of multi-threading. This is mainly due to the huge file size of the disk files, introduced for the process of data carving.

=> The output for the program is presented as a table with a various relevant field like Filename, Size, Offsets, etc.,

File_name	Size	Offsets	Md5 Hashes
PNG-1.png	1940	0x106a00 and 0x107194	0adba700e54834d1aa6eb91e5a7bdc2
PNG-2.png	114095	0x106a00 and 0x1227af	e77d5b3d67a5cef58568701a5d9e2700
PNG-3.png	7599	0x120a00 and 0x1227af	8e1899d70a1841c3bb35851d7d1c217c
PDF-1.pdf	67053	0x135a00 and 0x145fed	17c9033f711fb7571b9a5ae30f9c9e62
PDF-2.pdf	122682	0x135a00 and 0x15393a	265d94bbb0ba7f19c9be9f3bff829dd1
PDF-3.pdf	773827	0x135a00 and 0x1f28c3	c1de1a77b8ce3b5633cb6260362b7850
PDF-4.pdf	55098	0x146200 and 0x15393a	8c5a7c28b6ab02a909dabea2dbce3bb5
PDF-5.pdf	706243	0x146200 and 0x1f28c3	4dbc0b6806daa853db85cbf66ccc24be
PDF-6.pdf	132803	0x1d2200 and 0x1f28c3	3cd58e202ad2bb14292901fd94e231fe
JPG-1.jpg	7411	0x12a200 and 0x12bef3	307c334667bd6c7f8da79d5bc44f55d0
JPG-2.jpg	88091	0x12a200 and 0x13fa1b	2006d392ba70cd60d4c2fb4b3113e9f3
JPG-3.jpg	157371	0x12a200 and 0x1508bb	00b6bfddd5f4874cc873f28c1ab31185
JPG-4.jpg	787471	0x12a200 and 0x1ea60f	857dd7b78feef4ffda0f2a9020b3e131
JPG-5.jpg	41880	0x146523 and 0x1508bb	737a112e8b8227330436acf04543e17e
JPG-6.jpg	671980	0x146523 and 0x1ea60f	5a0999242419b4156f5e35fa75f623e7