

## Project 1: Image Enhancement/Restoration

Each student is assigned 3 images (see *Appendix*). Please (1) analyze the noise types in these three images, and (2) then use any appropriate denoising methods (spatial filtering, frequency-domain filtering, or any other method) to clean the images.

To Do: Please proceed on *xxx.jpeg* (*xxx* is the number of the assigned image, size:  $224 \times 224$ ) in the folder “P1\_Images\”. Save your output picture as *output\_xxx.jpeg*.

### Scoring Criteria:

- (1) The style, organization, and content of the report;
- (2) The correctness of the method used;
- (3) The performance of the code.

### Note:

- (1) You can use any programming language you like.
- (2) You **cannot** call any third-party or built-in library for key processing steps. However, some basic functions such as image I/O, visualization or mathematical operations are allowed. Taking python as an example, you cannot call any function from cv2, but you can use I/O and visualization functions in cv2 and use numpy to do mathematics.
- (3) You are required to submit the source code and a report (a template is provided).
- (4) Please pack all files (code and report) into one compressed ZIP/RAR file named ‘proj1\_student-id\_short-name.zip/rar’, and send it to: [24b951025@stu.hit.edu.cn](mailto:24b951025@stu.hit.edu.cn).
- (5) **Deadline: October 28, 2024.**
- (6) **Do it by yourself! Plagiarism is strictly prohibited.**

**Appendix: Three images assigned to each student**

Student No.	Name	3 Images Assigned
24SF51001	KOROMA ALUSINE	101 100 105
24SF51008	SFOULI ABDELLATIF	107 102 113
24SF51010	GABRIEL ALPHONCE PASTORY	109 103 118
24SF51011	ESUA MANYI ELISEUS ESUA	112 104 119
24SF51013	BOUDANI AYOUB	127 106 125
24SF51014	CHOUKRI ABDELKARIM	129 108 128
24SF51017	FEZOUATI ABDERRAHIM	131 110 134
24SF51018	SULEIMAN SAMIRO ABDIKARIM	132 111 138
24SF51021	ODII HARRISON NZUBECHUKWU	133 114 142
24SF51029	ASHRAF HAFIZ MUHAMMAD KAMRAN	135 115 158
24SF51030	HASSAN AHMAD	136 116 160
24SF51031	HASSAN SHAWAIZ	139 117 161
24SF51033	BISWAS SHUSMITA	145 120 173
24SF51036	ELADIB MOAD	151 121 175
24SF51037	SYLLA OUSMANE	157 122 178
24SF51042	ABAGA NDONG WILLIAM-PAUL	159 123 180
24SF51045	MASSOURI HAMZA	165 124 185
24SF51047	ABDULLOEV SAYEEDULUGBEK	168 126 198
24SF51049	KAMDEM FOGAING HERMAN STEVE	174 130 202
24SF51051	MUSTAFA SADAF	179 137 221
24SF51053	NGALA PRECIOUS CHUKWUEBUKA	182 140 239
24SF51058	JAHAN SARWAR	183 141 241
24SF51064	RASHID MUHAMMAD	184 143 250
24SF51067	ZAIN UL ABDEEN	187 144 284
24SF51068	HOSAN SHAFAT	188 146 287
24SF51069	AL MUNTASIR MD FAHIM	191 147 290
24SF51073	SOBUJ JANNATUNNAIM	199 148 291
24SF51074	KANKU DAN	209 149 292
24SF51076	SADAQAT MUHAMMAD SHEHERYAR	210 150 296
24SF51077	NAZMUL AREFIN	211 152 318
24SF51078	PARTHO CHAKY	212 153 338
24SF51082	AZIZ FATIMA	213 154 361
24SF51088	GNONA NGANGBA JACQUES DILANE	215 155 362
24SF51099	MASIMOV ILKIN	216 156 370
24SF51103	MALIKA ABDOULKADER DABALEH	222 162 381
24SF51109	NAIGA VIVIAN	224 163 387