

# Error Resilience

# Introduction

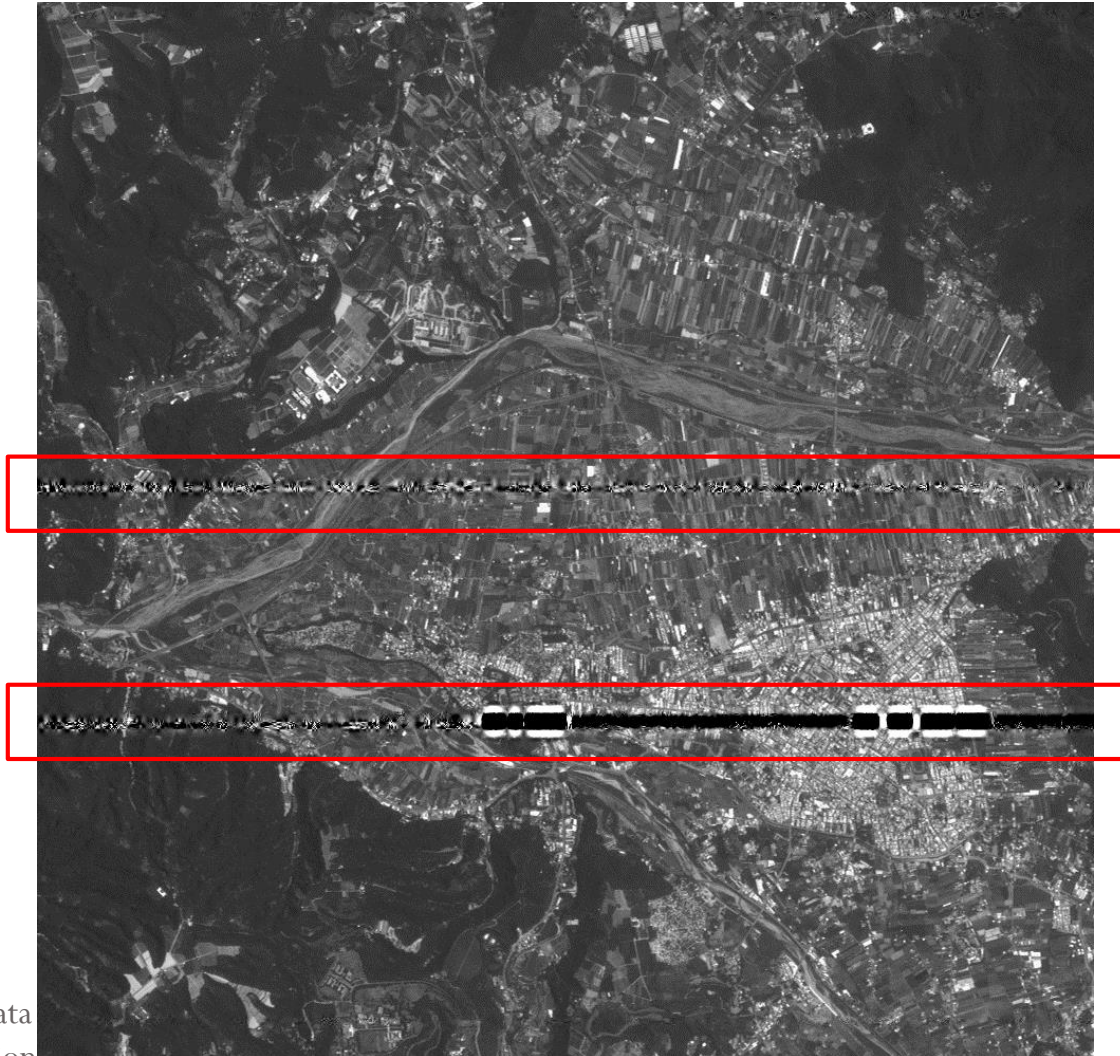
- **Error Detection**

- Detect the damaged region.

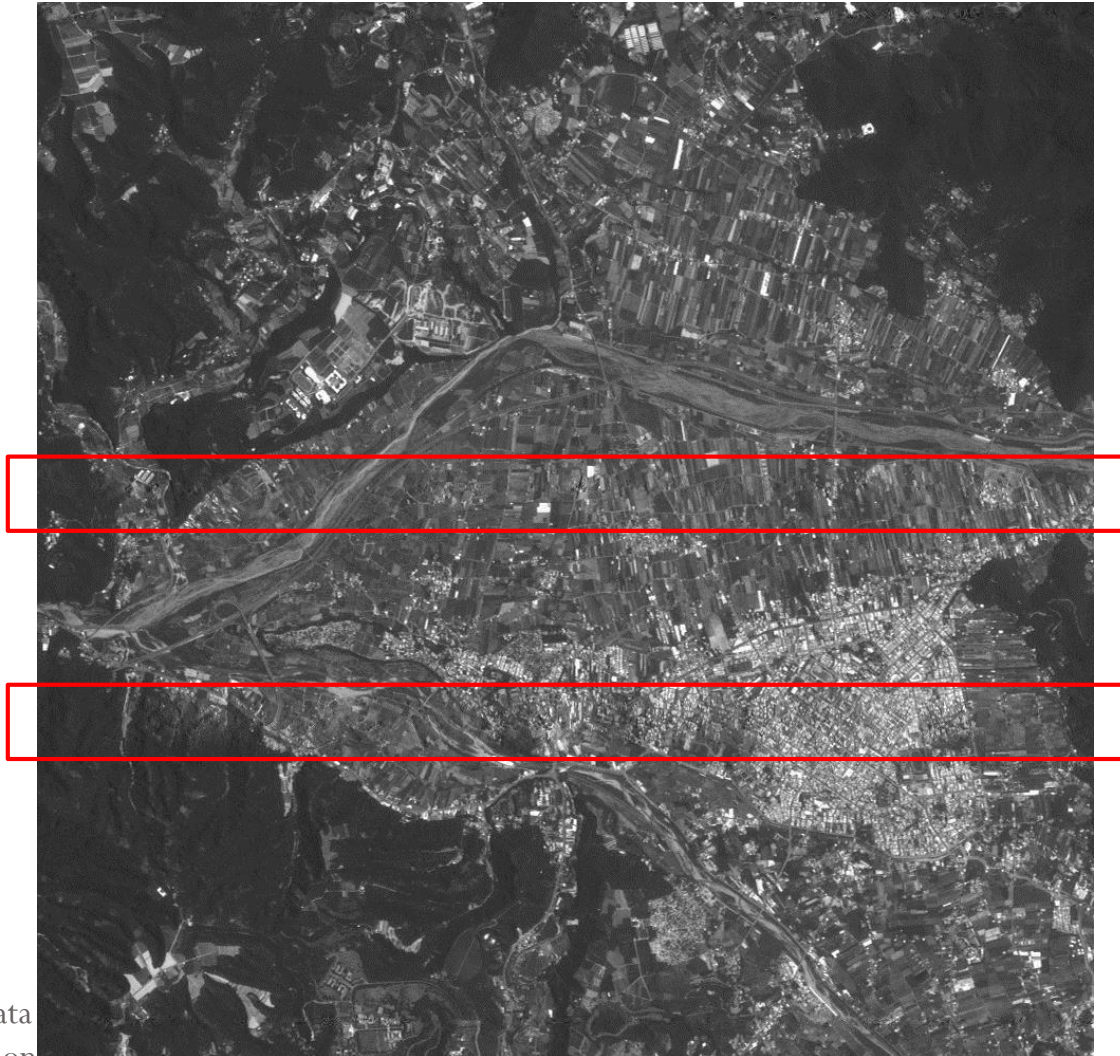
- **Error Concealment**

- Reconstruct the damaged region using temporal or spatial information.

# Example of Error Detection



# Example of Error Concealment



# Final Project

- Error Data 1 – Frame Loss:



Frame 77



Frame 78



Frame 79



Frame 80

# Final Project

- Error Data 2 – Simulated Segment Damaged:



Frame 77



Frame 78



Frame 79



Frame 80



Frame 91



Frame 92



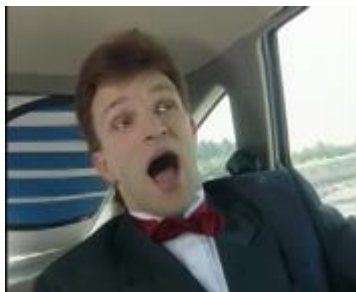
Frame 93



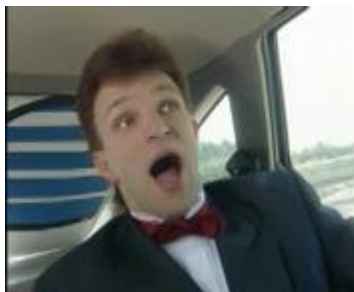
Frame 94

# Final Project

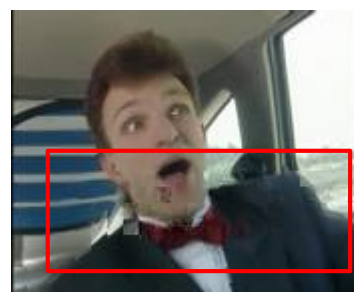
- Error Data 3 – Real Bit-Error:



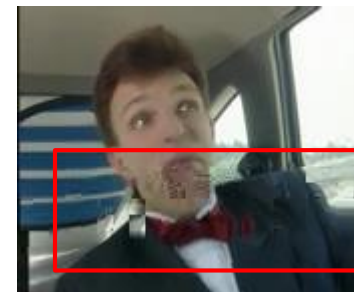
Frame 126



Frame 127



Frame 128



Frame 129



Frame 378



Frame 379



Frame 380



Frame 381

# Final Project

- 作業需求 (2人一組)
  - Error Detection - 30%
    - 判斷Error區域
  - Error Concealment - 50%
    - PSNR (只計算發生error的frame)

$$PSNR = 10 \cdot \log_{10} \left( \frac{MAX_I^2}{MSE} \right)$$

- 書面報告 - 20%
  - 以一般論文格式撰寫。
  - 寫出分工狀況。



# Final Project

- 作業繳交

1. 程式碼及執行檔
2. 程式操作說明文件(Word檔，頁數不限)
3. 書面報告文件(Word檔，15-20頁，註明聯絡方式)
4. Deadline: 2017/01/10 17:00前

- 繳交方式

1. 電子檔燒錄至光碟、書面報告印出繳交至  
DCMC實驗室(92533)

# TA Information

- 陳鵬宇
  - cpy102d@dcmc.ee.ncku.edu.tw
- 蔡定洲
  - ttc100d@dcmc.ee.ncku.edu.tw