PyChessBot

Paul Adams – EE596 Machine Vision – Final Project

Introduction

Chess.com
- Most popular platform for web/mobile chess
- Can play your skill level at any time
- Note on ethics of project

Project Goal

Play Chess in Real Time with Human Opponents
- Interact with Operating System
- Interact with a chess Engine
- Decode a Chess Board using Computer Vision

Tools used

- Operating System Interface
  - Using Linux Mint
  - PyAutoGUI - https://github.com/asweigart/pyautogui
    - Enables moving pieces with mouse commands from Python
  - PyScreenShot - https://pypi.python.org/pypi/pyscreenshot
    - Enables capturing Chess Board image
- Chess Engine
  - stockfish - https://stockfishchess.org/
  - python-chess - https://github.com/niklasf/python-chess
    - Enables communicating with Chess engine
- Classifier
  - Sci-kit Learn's Support Vector Machine

Training and Testing a Classifier

- Span Training Set

  Chess pieces can be enumerated as
  1. Not a Piece
  2. Pawn
  3. Knight
  4. Bishop
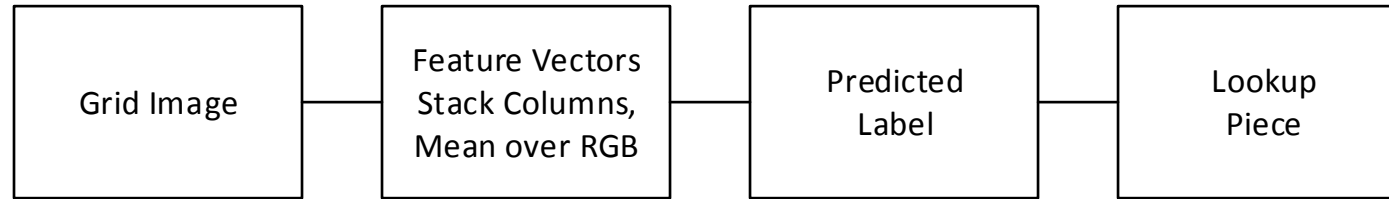 5. Rook
  6. Queen
  7. King

- Generate Test Images with FEN encodings