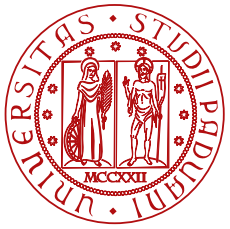

Università degli Studi di Padova

Dipartimento di Ingegneria dell'Informazione

Laurea Triennale in Ingegneria Informatica

Reti neurali convoluzionali per lo studio di varianti non codificanti in sequenze genomiche

Laureando

Alessandro Trigolo

Matricola 2043049

Relatore

Prof.ssa Cinzia Pizzi

Università degli Studi di Padova

Anno Accademico
2023/2024

To my parents
and friends

Abstract

Sommario

Indice

Indice delle Figure

Indice delle Tabelle

Indice degli Algoritmi

Indice dei Frammenti di Codice

Lista degli Acronimi

CNN Convolutional Neural Network

1 Introduction

Random citation [1].
Random footnote.[1]

1.1 A section

Example of list

- Item 1
- Item 2

1.1.1 A subsection

Example of acronym

CSV! (**CSV!**)

Example of enumeration

1. Item 1
2. Item 2

[1] `https://lucamartinelli.eu.org`

Example of quote

> *Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.*

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

2

Background

Algorithm 1 An algorithm with caption

Require: $n \geq 0$
Ensure: $y = x^n$
  $y \leftarrow 1$
  $X \leftarrow x$
  $N \leftarrow n$
  while $N \neq 0$ **do**
    if N is even **then**
      $X \leftarrow X \times X$
      $N \leftarrow \frac{N}{2}$ {This is a comment}
    else if N is odd **then**
      $y \leftarrow y \times X$
      $N \leftarrow N - 1$
    end if
  end while

$$e^{j\pi} + 1 = 0 \tag{2.1}$$

3 Analysis

3.1 A section

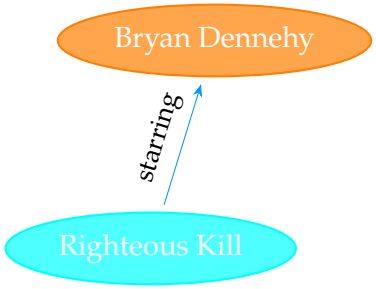

Figura 3.1: Image created with TikZ

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

```
import numpy as np

def incmatrix(genl1,genl2):
    m = len(genl1)
    n = len(genl2)
    M = None #to become the incidence matrix
```

```
    VT = np.zeros((n*m,1), int)  #dummy variable

    test = "String"

    #compute the bitwise xor matrix
    M1 = bitxormatrix(genl1)
    M2 = np.triu(bitxormatrix(genl2),1)

    for i in range(m-1):
        for j in range(i+1, m):
            [r,c] = np.where(M2 == M1[i,j])
            for k in range(len(r)):
                VT[(i)*n + r[k]] = 1;
                VT[(i)*n + c[k]] = 1;
                VT[(j)*n + r[k]] = 1;
                VT[(j)*n + c[k]] = 1;

                if M is None:
                    M = np.copy(VT)
                else:
                    M = np.concatenate((M, VT), 1)

                VT = np.zeros((n*m,1), int)

    return M
```

Codice 3.1: Code snippet example

4

Conclusions and Future Works

A	**B**
C	D
E	F
G	H

Tabella 4.1: Table example

Riferimenti

[1] Marco Alecci et al. «Development of an IR System for Argument Search.» In: *CLEF (Working Notes)*. 2021, pp. 2302–2318.

Ringraziamenti