

YYDS 揚揚女團生產器

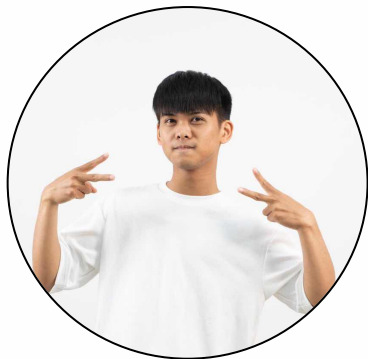
Yang Yang Dance Simulator

```
lookup.KeyValue  
f.constant(['em  
=tf.constant([G  
lookup.StaticV  
_buckets=5)
```

余振揚 (Leader)

顏鈺蓁、江宇浩、吳出右

```
lookup.KeyValue  
f.constant(['em  
=tf.constant([G  
lookup.StaticV  
_buckets=5)
```



余振揚



顏鈺蓁



江宇浩



吳出右

```
lookup.KeyValue  
f.constant(['em  
=tf.constant([G  
lookup.StaticV  
_buckets=5)
```



Google Developer Student Clubs
National Cheng Kung University

Making Dance EASY !

```
lookup.KeyValue  
f.constant(['em  
=tf.constant([G  
lookup.StaticV  
_buckets=5)
```

```
children: [  
  con(icon, color: color  
  ontainer(  
margin: const EdgeIns  
child:  
  label  
  style
```



**I dance,
therefore I am**



Chen-Yang Yu
M.S. in AI Robotics, NCKU

Outline

1. Motivation Background
2. Preliminary Experiment
3. Related Work
4. Proposed Method
5. Results
6. Comparison with SOTA
7. Conclusion & Future Work
8. Feedback
9. Acknowledgement



Motivation Background

女團好香 🥰

好想學跳舞

但我有點懶

而且不敢跳



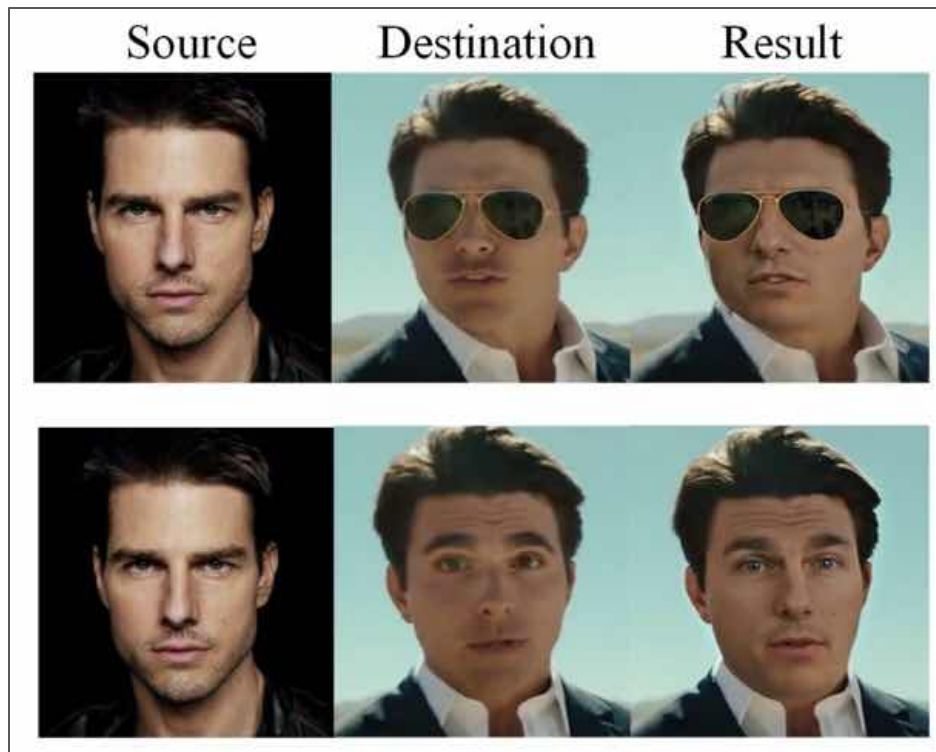
 Google Developer Student Clubs



Preliminary Experiment

DeepFakes: Replace a source face with the target face, maintaining facial expression such as eye movement and facial muscle movement.

DeepFaceLab: A state-of-the-art framework with clear workflow designed for photorealistic facial swapping.



Let's Swap 🤔



Ditto - NewJeans

我對不起大家 🤦



抖音妹妹

觀感不佳 🙄



科目三

口罩遮擋 🧑



What if I just want to mimic the dance pose?

Pose
Estimation

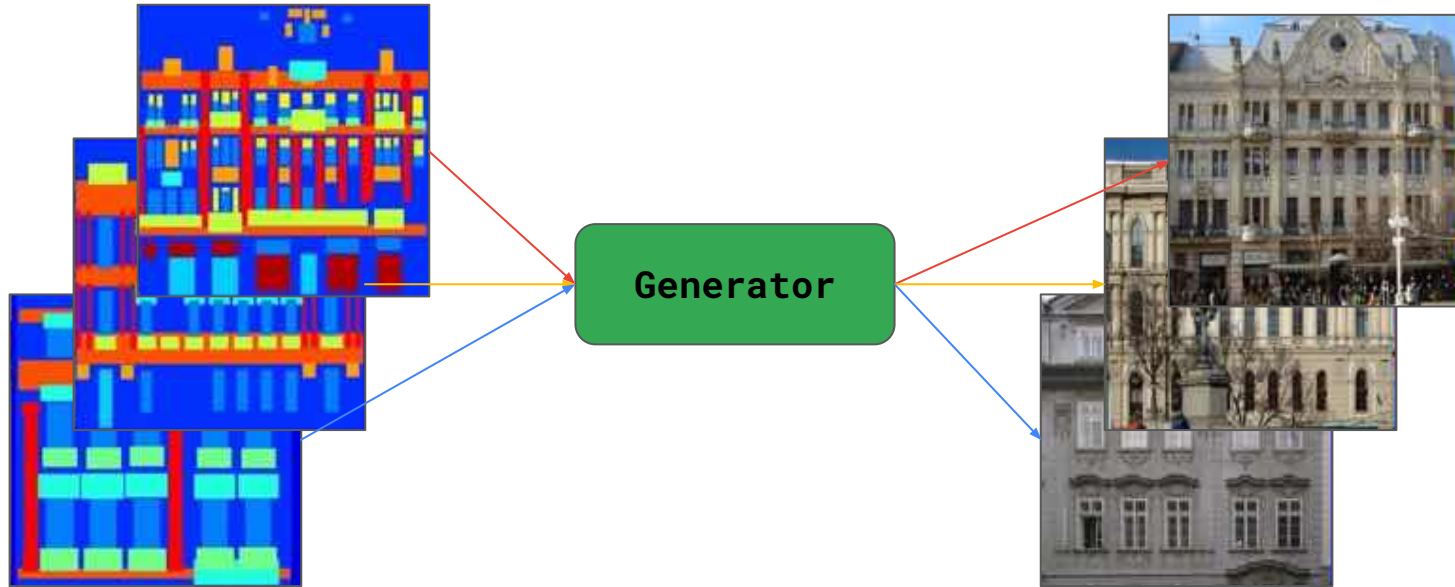


G
A
N

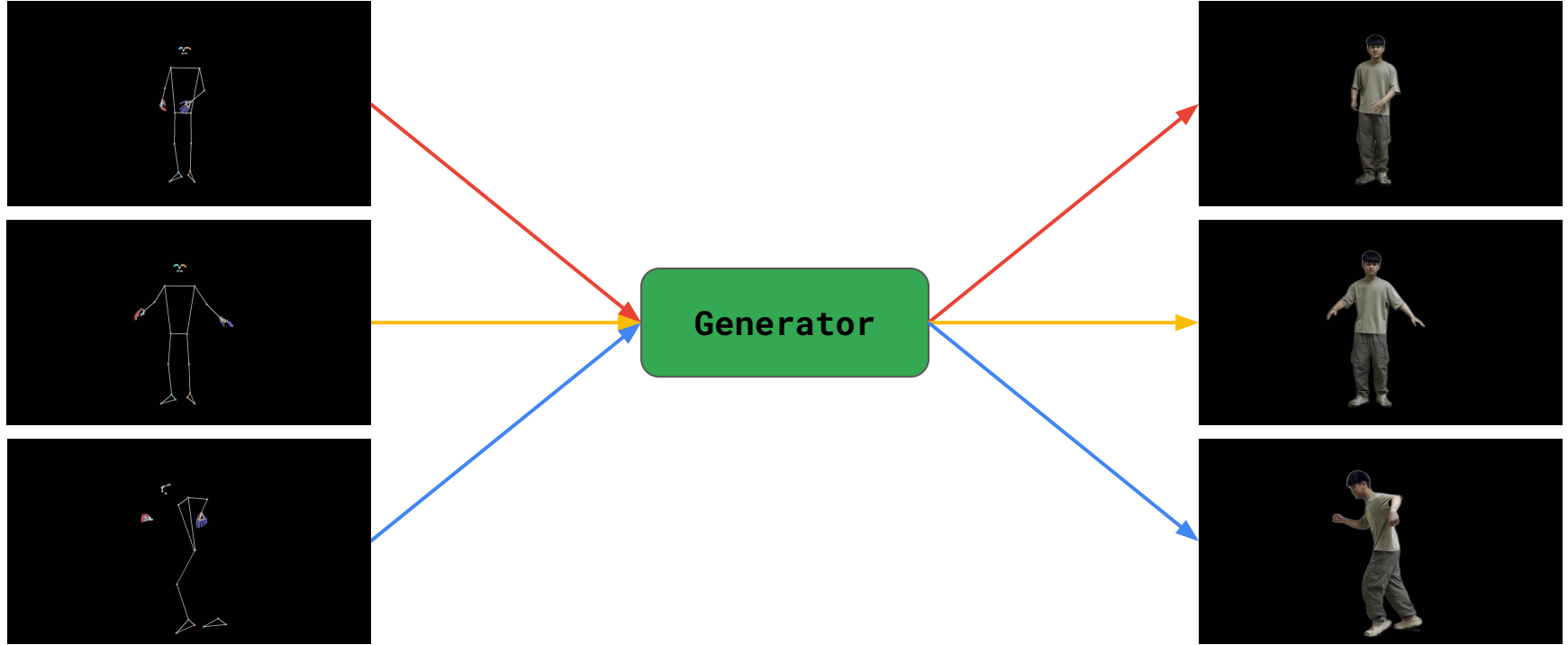


Related Work - Pix2Pix

A conditional GAN for image-to-image translation

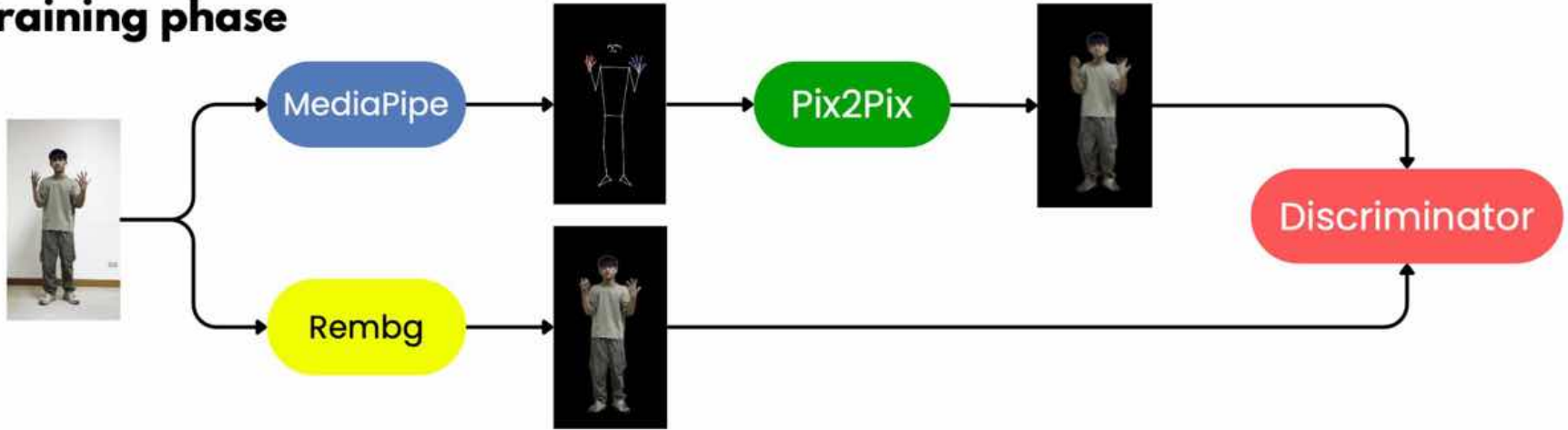


Redefine Domain Dataset for Our Scenario



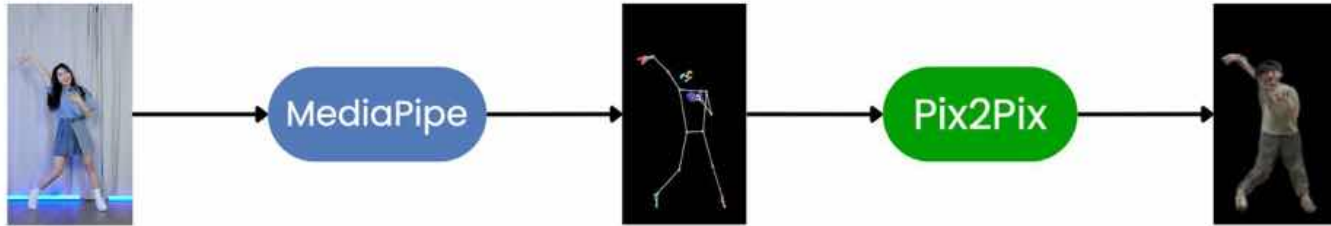
Proposed Method - Training Phase

Training phase



Proposed Method - Testing Phase

Testing phase



Training Data

- Mediapipe: Extract pose skeleton
- Rembg: Remove background

Raw



domain A



domain B

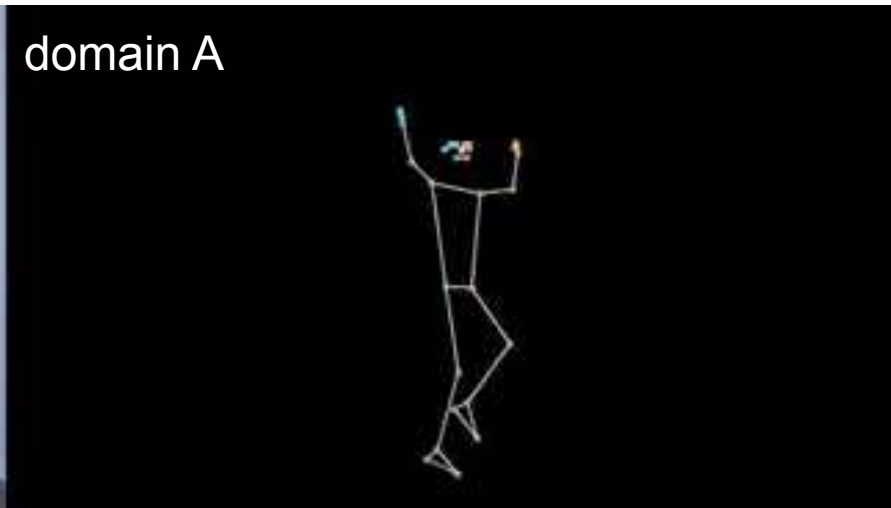


Testing Data

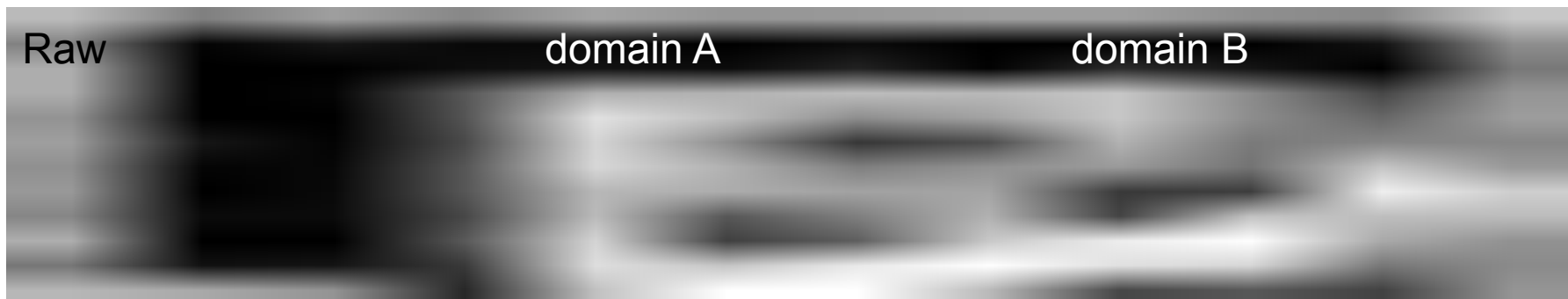
Raw



domain A



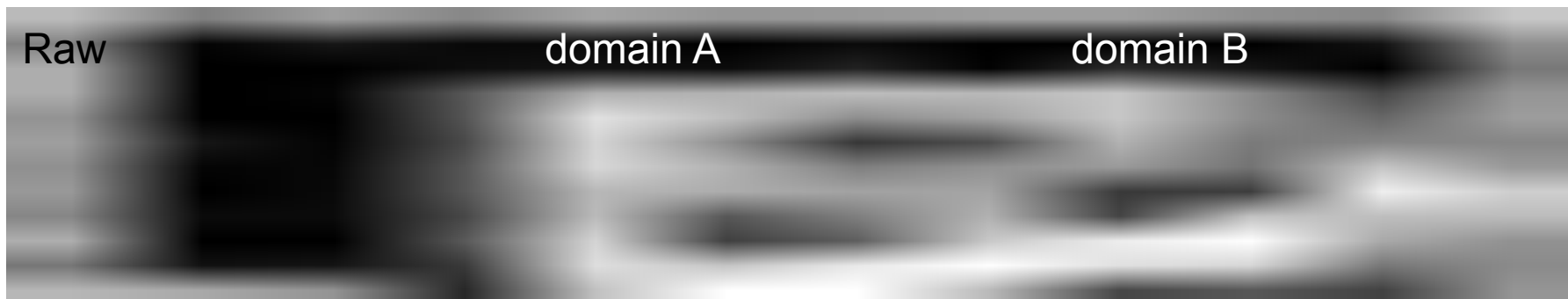
Results - Pix2Pix



Results - Pix2Pix



Results - Pix2PixHD



Results - Pix2PixHD



Comparison to SOTA - VIGGLE AI



ViggleAI - /mix



Magnetic - ILLIT (ViggleAI)



Not always as good as expected



Conclusion

1. Our project makes dance EASY!
2. We extract pose skeletons using MediaPipe and remove backgrounds with Rembg, ensuring clear and focused dance frames.
3. We train the conditional GAN model by leveraging Pix2Pix and Pix2PixHD models, generating a realistic dance video that precisely mirror the extracted pose skeletons.

Conclusion

YYDS is a concept that makes dance accessible to everyone by customizing dance experience for users.

We are dedicated to refining and expanding our system to accommodate diverse users and dance styles.

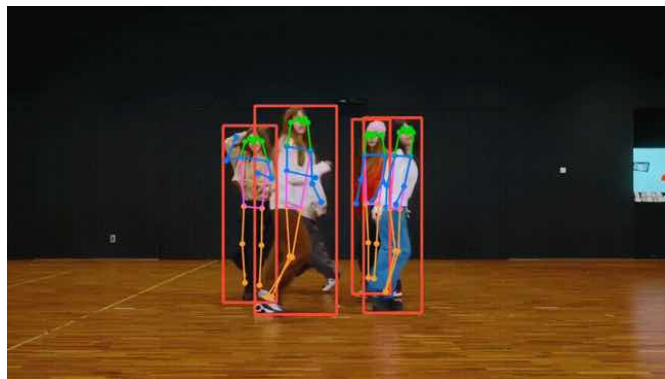


Future work

1. 現有方法僅能針對單一舞者進行動作轉移

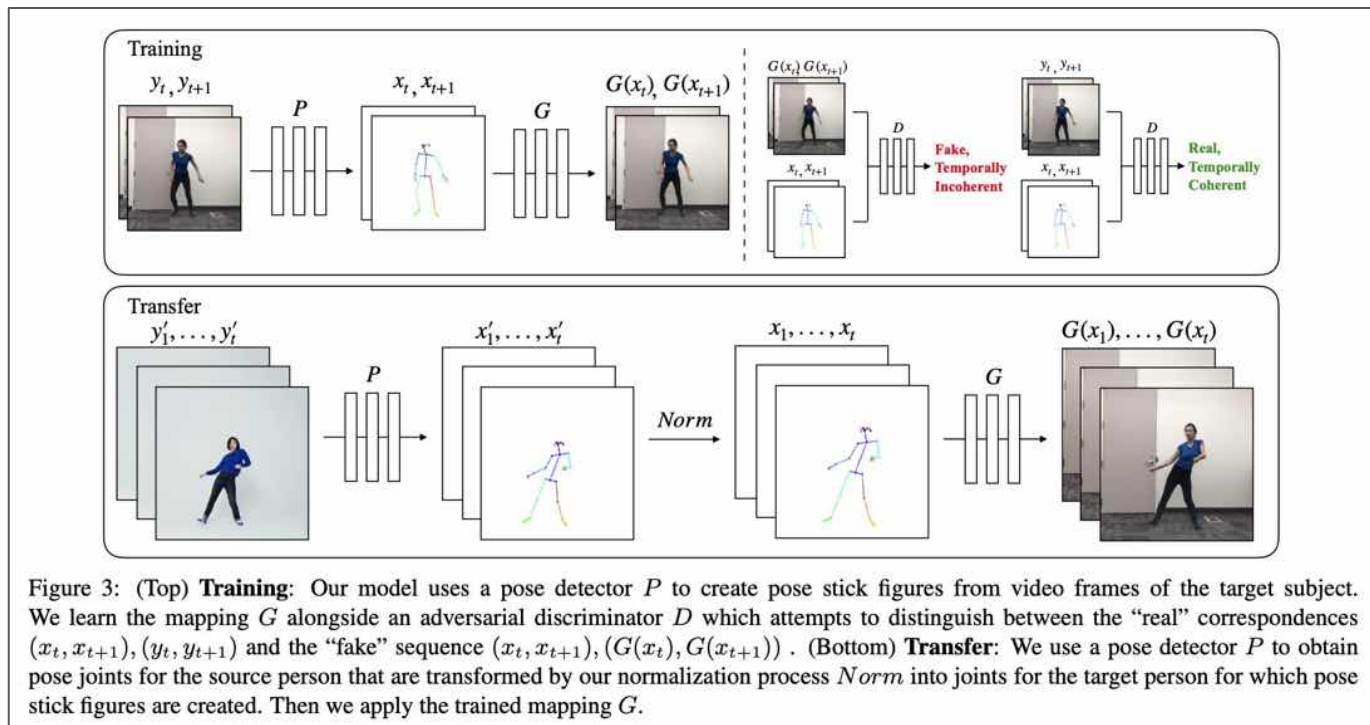
既然是女團，就必需要學會所有妹妹們的動作啊！

Potential Solution: Apply Identification Tracking on Pose Estimation



2. 目前的成果有大量的雜訊，為frame跟frame之間的temporal smoothing問題
現有可行辦法：[Everybody Dance Now](#)
3. GAN的訓練過程太耗時，未來可使用Diffusion搭配LLM進行少樣本訓練

Paper Research - Everybody Dance Now



Feedback

We are future Google Developer.

Of course, we want to do something BIG!

Generative AI requires significant hardware resources.

As students, we don't have the funds to rent or buy GPUs.

However, making the most of limited resources to achieve limited goals is also a valuable and meaningful learning experience.

```
children: [  
  con(icon, color: color  
  ontainer(  
    margin: const _edgeIns  
    child: Text(  
      label  
      style
```

 Google Developer Student Clubs

yyds-dance-generator

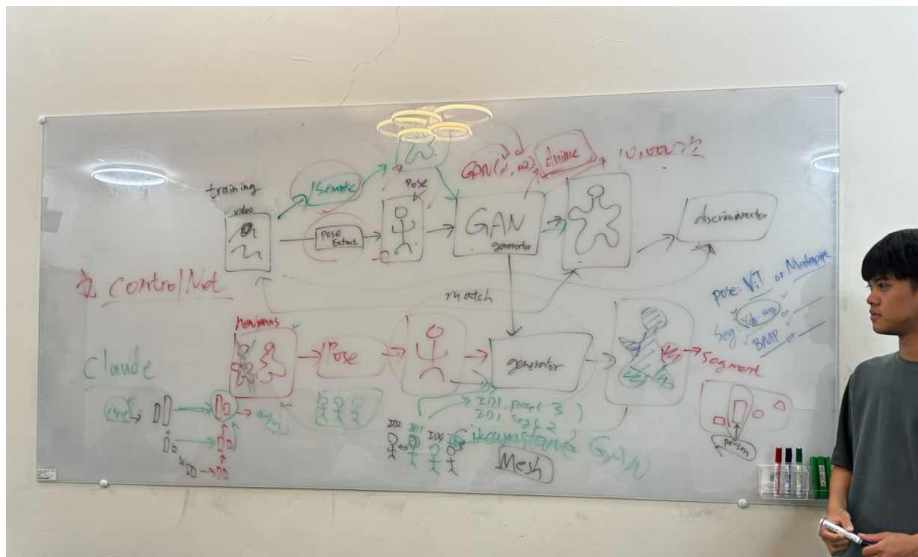
<https://github.com/LittleFish-Coder/yyds-dance-generator>



Development Journey



Google Developer Student Clubs
YYDS



```
/*1*/  
child: Column(  
  crossAxisAlignment: CrossAxisAlignment.  
  children: [  
    /*2*/  
    Container(  
      padding: const EdgeInsets.  
      child: const Text(  
        'Oeschinen Lake Campg  
      style: TextStyle(  
        fontWeight: FontWeig  
      ),  
    ),  
  ],  
),  
)
```

Acknowledgement



余振揚、顏鈺蓁、吳出右、江宇浩



Google Developer Student Clubs
YYDS



蘇奕偉
GDSC Lead

```
child: Column(  
  crossAxisAlignment: CrossAxisAlignment.  
  children: [  
    /*2*/  
    Conta  
    pad  
    chi  
    '  
    s  
    )  
  ),  
),  
),  
Text(  
  'Ka  
  sty  
  c  
  ),  
),  
),
```

Damn, I really make it look EASY


```
child: Column(  
  crossAxisAlignment: CrossAxisAlignment.  
  children: [  
    /*2*/  
    Conta  
    pad  
    chi  
    '  
    s  
    )  
  ),  
),  
Text(  
  'Ka  
  sty  
  c  
  ),  
),  
),
```

Thanks !

EASY - LE SSERAFIM (Viggle AI)



Drama - aespa (Viggle AI)



I AM - IVE (Viggle AI)




```
child: Column(  
  crossAxisAlignment: CrossAxisAlignment.  
  children: [  
    /*2*/  
    Conta  
    pad  
    chi  
    '  
    s  
    )  
  ),  
  Text(  
    'Ka  
    sty  
    c  
    ),  
  ),  
),
```

“Simple statement, URL or quote goes here. Limit text to four lines or less.”



Google Developer Student Clubs

“Simple statement,
URL or quote goes
here. Limit text
to five lines or less.”

```
/*1*/  
child: Column(  
  crossAxisAlignment: CrossAxisAlignment.  
  children: [  
    /*2*/  
    Container(  
      padding: const EdgeInsets.  
      child: const Text(  
        'Oeschinen Lake Campg  
      style: TextStyle(  
        fontWeight: FontWeig  
      ),  
    ),  
  ],  
),  
),  
)
```



```
children: [  
  con(icon, color: color  
  ontainer(  
    margin: const edgeIns  
    child: Text(  
      label  
      style
```



Simple quote or
statement goes here.
Ideally limit to four or
five lines max.

