

## [ 가천대 특강]

■ AI를 활용하는 아티스트 및 알고리즘

가천대 예술대 AI스터디 github:

<https://github.com/artjow/-AI->

유튜브 강의:

<https://www.youtube.com/watch?v=Niff1Ck3kcg&list=PLibvwRbJP3JgKdC4eaGNs8ef-rqI2soly>

구글드라이브 개설 예정

## [ 특강 시간표]

월2회

시간:1시간30분

총10회

주요수업내용: AI기초 이론 및 실습, 응용

회차	내용	기타
1	구글콜랩, 깃허브, 구글드라이브	
2	딥러닝 이론	
3	딥러닝 이론	
4	딥러닝 이론	
5	AI 실습	
6	AI 실습	
7	AI 실습	
8	프로젝트	
9	프로젝트	전시준비
10	프로젝트	전시준비

1) 레픽아나돌

<https://www.youtube.com/watch?v=I-EIVIHvHRM>

<https://vimeo.com/143832421> (CycleGAN)

2) Bluetech - Point Cloud [Visualization]

Artist - Bluetech

[https://www.youtube.com/watch?v=G0Y\\_-uKFD-0](https://www.youtube.com/watch?v=G0Y_-uKFD-0)

3) Neural Style Transfer

<https://vimeo.com/211112819>

4) 코우이 나카마 (Kouhei Nakama)

<https://vimeo.com/176703851>

5) Photo Wake-Up: 3D Character Animation from a Single Photo

<https://www.youtube.com/watch?v=G63goXc5MyU&t=7s>

프로젝트페이지: <https://grail.cs.washington.edu/projects/wakeup/>

6) 스콧이튼(pix2pix)

<http://www.scott-eaton.com/>

7) style transfer

[https://www.youtube.com/watch?v=vQk\\_Sfl7kSc](https://www.youtube.com/watch?v=vQk_Sfl7kSc)

8) Recycle-GAN

<https://www.youtube.com/watch?v=XZc3tf14zDU>

<https://github.com/aayushbansal/Recycle-GAN>

9) StyleGAN, StyleGAN2

A Style-Based Generator Architecture for Generative Adversarial Networks

<https://www.youtube.com/watch?v=kSLJriaOumA&t=13s>

StyleGAN2

<https://www.youtube.com/watch?v=LsqmCjTtU2U>

<https://www.youtube.com/watch?v=9QuDh3W3lOY&t=5s>

10) 메모악텐(Memo Akten)

논문: 깊은 명상-> 잠재 공간의 제어 된 탐색(Deep Meditations: Controlled navigation of latent space) [https://nips2018creativity.github.io/doc/Deep\\_Meditations.pdf](https://nips2018creativity.github.io/doc/Deep_Meditations.pdf)

코드: <https://github.com/memo/py-msa-kdenlive>

- 비주얼 네트워크는 ProGAN
- 오디오 네트워크는 Grannma MagNet

<http://www.memo.tv/works/deep-meditations/#moreinfo>

<https://towardsdatascience.com/progan-how-nvidia-generated-images-of-unprecedented-quality-51c98ec2cbd2>

Deep Meditations, 90s snippet

<https://www.youtube.com/watch?v=BLmYXfPZYX8>

11) LeNet, AlexNet, ZFNet, VGG, GoogLeNet, ResNet

<https://hoya012.github.io/blog/deeplearning-classification-guidebook-1/>

12) CNN아키텍처

<http://taewan.kim/post/cnn/>

구글콜랩:

[https://colab.research.google.com/github/minsuk-heo/tf2/blob/master/jupyter\\_notebooks/07.CNN.ipynb#scrollTo=\\_3TuH5\\_o4fnP](https://colab.research.google.com/github/minsuk-heo/tf2/blob/master/jupyter_notebooks/07.CNN.ipynb#scrollTo=_3TuH5_o4fnP)

13) 인공지능을 활용한 예술가

<https://news.artnet.com/market/9-artists-artificial-intelligence-1384207>

마리오클링게만:

‘마리오 클링게만(Mario Klingemann)’이 제작한 ‘행인의 기억 I(Memories of Passerby I)’

<https://www.artsy.net/artwork/mario-klingemann-memories-of-passersby-i-version-companion>

<https://www.youtube.com/watch?v=Jjv3m5oWICA&t=3s>

<https://www.arko.or.kr/artntech/boardView.do?siteId=artntech&pageId=JM2020013000001&boardId=MB2020091700001&boardSeq=60>

국내:펄스라인

<http://www.pulse9studio.com/PaintlyFX/?idx=2933484&bmode=view>

크리스티 뉴욕 경매에서 ‘AI 작품’으로 출품돼 43만여달러에 낙찰된 ‘에드몽 드 벨라미’초상화

<https://www.hani.co.kr/arti/PRINT/867614.html>

[https://www.youtube.com/watch?v=Jn7zpA\\_wEF4&t=2s](https://www.youtube.com/watch?v=Jn7zpA_wEF4&t=2s)

An Artist's New Tool: How the World's Leading Creators Use GauGAN;

<https://www.youtube.com/watch?v=NKFrg9HMYaY&t=5s>

아론코블린

[https://www.ted.com/talks/aaron\\_koblin\\_visualizing\\_ourselves\\_with\\_crowd\\_sourced\\_data?language=ko](https://www.ted.com/talks/aaron_koblin_visualizing_ourselves_with_crowd_sourced_data?language=ko)

14) 월드모델

<http://aidev.co.kr/deeplearning/4304>

논문리뷰: <https://www.youtube.com/watch?v=dPsXxLyqpfs>

논문: <https://arxiv.org/pdf/1803.10122.pdf>

깃허브: <https://github.com/ctaltec/world-models>

드라마(Dreamer)소개: <https://brunch.co.kr/@synabreu/59>

Dreamer v2: Mastering Atari with Discrete World Models (Machine Learning Research Paper Explained)논문리뷰

<https://www.youtube.com/watch?v=o75ybZ-6Uu8>

소스코드: <https://github.com/danijar/dreamerv2>

15) 코드가 들어가면 예술이 나온다 - 타일러 홉스(Code goes in, Art comes out - Tyler Hobbs)

<https://www.youtube.com/watch?v=LBpqoj2nOQo>

16) OpenAI 숨바꼭질: 강화학습

<https://www.youtube.com/watch?v=Lu56xVIZ40M&list=RDCMUcBfYPyITQ-7l4upoX8nvtg&index=3>

17) GAN

<https://ratsgo.github.io/generative%20model/2017/12/20/gan/>

18) This AI Makes The Mona Lisa Speak...And More!

Few-shot Video-to-Video Synthesis

논문요약: <https://nvlabs.github.io/few-shot-vid2vid/>

비디오: <https://www.youtube.com/watch?v=8AZBuyEuDqc>

<https://www.youtube.com/watch?v=4J0cpdR7qec>

19) California Dreaming - Faye Wong in Chungking Express(중경삼림)

<https://www.youtube.com/watch?v=7ol9qzDsCCQ>

Malena - Ennio Morricone(말레나-에니오 모리코네)

<https://www.youtube.com/watch?v=W-YD2Y8ojYE>

시네마천국 라스트신 (알프레도의 선물).wmv

<https://www.youtube.com/watch?v=31jZ8EymfMA>

레옹: <https://www.youtube.com/watch?v=lLv5jYH7pKg>

20) First Order Motion Model for Image Animation(딥페이크)

<https://www.youtube.com/watch?v=mUfJOQKdtAk&t=72s>

21) Everybody Dance Now

논문리뷰: [https://carolineec.github.io/everybody\\_dance\\_now/](https://carolineec.github.io/everybody_dance_now/)

깃허브: <https://github.com/carolineec/EverybodyDanceNow>

유투브: <https://www.youtube.com/watch?v=PCBTZh41Ris>

논문: <https://arxiv.org/pdf/1808.07371.pdf>

Dancing Neural Network: <https://www.youtube.com/watch?v=53X9dwF5V6M>

22) AI가 생성한 음악

Mr Shadow: a song composed with Artificial Intelligence

<https://www.youtube.com/watch?v=lcGYEXJqun8>

a Eurovision song created by Artificial Intelligence: Blue Jeans and Bloody Tears

[https://www.youtube.com/watch?v=4MKAf6YX\\_7M](https://www.youtube.com/watch?v=4MKAf6YX_7M)

23) 비디오 합성

AI-Based Video-to-Video Synthesis

<https://www.youtube.com/watch?v=GRQuRcpf5Gc&t=28s>

24) 동영상을 만화로 변환해주는 사이트

<https://elwlsek.tistory.com/1296>

25) [SIGGRAPH 2019] 2차원 움직임 재표적을 위한 학습특성-무관성 운동(Learning Character-Agnostic Motion for Motion Retargeting in 2D)

<https://www.youtube.com/watch?v=fR4h4OjZSdU>

26) Animated Deep Fakes - Rick & Morty | Animating with AI

<https://www.youtube.com/watch?v=oHxtEGIXnNs>

Watch EbSynth bring paintings to life

<https://www.youtube.com/watch?v=eghGQtQhY38>

27) Calipso: Physics-based Image and Video Editing through CAD Model Proxies

<https://www.youtube.com/watch?v=5jzhW6GGvvs&t=1s>

프로젝트페이지: <https://mimesis.inria.fr/calipso/>

논문: [https://hal.inria.fr/hal-01890684/file/calipso\\_haouchine.pdf](https://hal.inria.fr/hal-01890684/file/calipso_haouchine.pdf)

28) StarGAN v2: Diverse Image Synthesis for Multiple Domains

<https://www.youtube.com/watch?v=0EVh5Ki4dIY>

코드: <https://github.com/clovaai/stargan-v2>

구글콜랩:

<https://colab.research.google.com/drive/1rjqtKYePtL7oEgK7IOY0WWjsDQAMQKim?usp=sharing#scrollTo=7ZYSRCgGBdPU>

29) 인공지능의 목표

<https://www.thisiscolossal.com/2016/10/a-childs-drawings-turned-into-realistic-images-of-animals-cars-and-people/>

<https://www.thisiscolossal.com/2014/07/artist-recreates-childhood-scribbles-as-digital-illustrations-over-20-years-later/>

Arinze Stanley

<https://www.thisiscolossal.com/2018/10/new-hyperrealistic-drawings-by-arinze-stanley/>

<https://www.thisiscolossal.com/2017/08/surreal-drawings-created-from-ballpoint-pen-and-embroidery-by-nuria-riaza/>

마로나의 환상적인 이야기 / L'Extraordinaire Voyage de Marona (2020) - 트레일러 (프랑스) Marona's Fantastic Tale / L'Extraordinaire Voyage de Marona (2020) - Trailer (French)

[https://www.youtube.com/watch?v=UsF3THwKi4c&list=RDCMUC4AIWUgVg6uPKepImpbJQ8A&start\\_radio=1&t=66s](https://www.youtube.com/watch?v=UsF3THwKi4c&list=RDCMUC4AIWUgVg6uPKepImpbJQ8A&start_radio=1&t=66s)

30) How to Train Your Artist.

<https://medium.com/merzazine/how-to-train-your-artist-cb8f188787b5>

구글콜랩:

<https://colab.research.google.com/drive/1cFKK0CBnev2BF8z9BOHxePk7E-f7TtUi>

31) Face Image Motion Model

구글콜랩: Face Image Motion Model (Photo-2-Video) Eng.ipynb

[https://colab.research.google.com/github/tg-bomze/Face-Image-Motion-Model/blob/master/Face\\_Image\\_Motion\\_Model\\_\(Photo\\_2\\_Video\)\\_Eng.ipynb](https://colab.research.google.com/github/tg-bomze/Face-Image-Motion-Model/blob/master/Face_Image_Motion_Model_(Photo_2_Video)_Eng.ipynb)

32) Mask R-CNN Demo

구글콜랩:

[https://colab.research.google.com/drive/1lyXcMidH2rmnv5GxFar0M\\_0mABr1M\\_-#scrollTo=NYCQe9ex9oj3](https://colab.research.google.com/drive/1lyXcMidH2rmnv5GxFar0M_0mABr1M_-#scrollTo=NYCQe9ex9oj3)

[https://colab.research.google.com/github/tensorflow/tpu/blob/master/models/official/mask\\_rcnn/mask\\_rcnn\\_demo.ipynb#scrollTo=2oZWLz4xXsyQ](https://colab.research.google.com/github/tensorflow/tpu/blob/master/models/official/mask_rcnn/mask_rcnn_demo.ipynb#scrollTo=2oZWLz4xXsyQ)

33) 케라스

few-shot 학습: <https://keras.io/examples/vision/reptile/>

구글콜랩:

<https://colab.research.google.com/github/keras-team/keras-io/blob/master/examples/vision/ipynb/reptile.ipynb>

34) 무이미메이커스\_간 (GAN) 을 활용한 인공지능 (AI) 이미지 변환 (Image Translation) 딥러닝 프로젝트

<https://honeycomb-makers.tistory.com/19>

35) DiscoGAN

[https://hyeongminlee.github.io/post/gan005\\_discogan/](https://hyeongminlee.github.io/post/gan005_discogan/)

코드리뷰: <https://www.youtube.com/watch?v=cybNIUq6xSI>

구글콜랩:

[https://colab.research.google.com/drive/1Lw7BqKABvtiSyUHg9DeM5f90\\_WFGB7uz](https://colab.research.google.com/drive/1Lw7BqKABvtiSyUHg9DeM5f90_WFGB7uz)

36) OpenAI DALL·E: Fighter Jet For The Mind!

<https://www.youtube.com/watch?v=C7D5EzkhT6A>

37) 팀랩

teamLab: LIFE

<https://www.youtube.com/watch?v=FVJcL-Lvbcw>

38) 에브신스 테스트

<https://www.youtube.com/watch?v=6LPprx3BoXc>

<https://ebsynth.com/>

39) 신경망에 대하여

[https://www.youtube.com/watch?v=aircAruvnKk&list=RDCMUcYO\\_jab\\_esuFRV4b17AItAw&start\\_radio=1&rv=aircAruvnKk&t=98](https://www.youtube.com/watch?v=aircAruvnKk&list=RDCMUcYO_jab_esuFRV4b17AItAw&start_radio=1&rv=aircAruvnKk&t=98)

<https://www.youtube.com/watch?v=aircAruvnKk&t=9s>

40) Self attention GAN

<https://ml-dnn.tistory.com/7>

41) 딥러닝 비용함수, 유사도

<https://ynebula.tistory.com/28>

42) 논문 제목 : Imagination-Augmented Agents for Deep Reinforcement Learning  
[Last revised 14 Feb 2018 (this version, v2)]

<https://dongminlee.tistory.com/6>

43) 딥러닝 학습

<https://dongminlee.tistory.com/18?category=747427>

44) 로봇미술공모전

<https://robotart.org/>

<https://www.youtube.com/watch?v=JL0T250wD-s>

45) 바다위의 재봉틀; text-to-image

<https://www.youtube.com/watch?v=B9B19XmRrk&t=57s>

노래부르는 그림

<https://www.youtube.com/watch?v=FvRo7rXWBpY&t=3s>

지구와 너마쟁이

[https://www.youtube.com/watch?v=ePD\\_zHdUAz8](https://www.youtube.com/watch?v=ePD_zHdUAz8)

45) SRGAN

<https://leedakyeong.tistory.com/entry/%EB%85%BC%EB%AC%B8Photo-Realistic-Single-Image-Super-Resolution-Using-a-Generative-Adversarial-NetworkSRGAN>

46) Neural-Style-Transfer-Notebook.ipynb

구글콜랩;

<https://colab.research.google.com/drive/1rDTE8KssqdgC-evxO2JskAE1YLIFRjwS>

[https://colab.research.google.com/github/tg-bomze/Style-Transfer-Collection/blob/master/\(Photo\)\\_artistic\\_style\\_transfer.ipynb](https://colab.research.google.com/github/tg-bomze/Style-Transfer-Collection/blob/master/(Photo)_artistic_style_transfer.ipynb)

<https://pythonawesome.com/colabs-collection-of-style-transfer-in-photo-and-video/>



사운드 생성

[https://colab.research.google.com/notebooks/magenta/gansynth/gansynth\\_demo.ipynb#scrollTo=Vw9-tp6J5VV1](https://colab.research.google.com/notebooks/magenta/gansynth/gansynth_demo.ipynb#scrollTo=Vw9-tp6J5VV1)

47) StyleGAN2 ADA

<https://ichi.pro/ko/stylegan2-adalo-chusang-misul-mandeulgi-257519632609275>

MachineRay : AI를 사용하여 추상 미술 만들기

<https://ichi.pro/ko/machineray-aileul-sayonghayeo-chusang-misul-mandeulgi-63232995231594>

MachineRay2 - Image Generation

구글콜랩:

[https://colab.research.google.com/github/robgon-art/MachineRay2/blob/main/MachineRay2\\_Image\\_Generation.ipynb#scrollTo=L0nZskJmum2U](https://colab.research.google.com/github/robgon-art/MachineRay2/blob/main/MachineRay2_Image_Generation.ipynb#scrollTo=L0nZskJmum2U)

playground.ipynb

[https://colab.research.google.com/github/orpatashnik/StyleCLIP/blob/main/notebooks/optimization\\_playground.ipynb](https://colab.research.google.com/github/orpatashnik/StyleCLIP/blob/main/notebooks/optimization_playground.ipynb)

Text2Image\_v3

[https://colab.research.google.com/github/tg-bomze/collection-of-notebooks/blob/master/Text2Image\\_v3.ipynb#scrollTo=-M3hNFTcjPJg](https://colab.research.google.com/github/tg-bomze/collection-of-notebooks/blob/master/Text2Image_v3.ipynb#scrollTo=-M3hNFTcjPJg)

Aleph-Image: CLIPxDALL-E.ipynb

[https://colab.research.google.com/drive/1Q-TbYvASMPRMXCOQjkxxf72CXYjR\\_8Vp?usp=sharing](https://colab.research.google.com/drive/1Q-TbYvASMPRMXCOQjkxxf72CXYjR_8Vp?usp=sharing)

48) 데이터 시각화

<https://informationisbeautiful.net/>

빅데이터 시각화 도구

<https://bigdata-madesimple.com/review-of-20-best-big-data-visualization-tools/>

Robot Ants v2 | Unity ML-Agents

<https://www.youtube.com/watch?v=EwB8XXCYOsc>