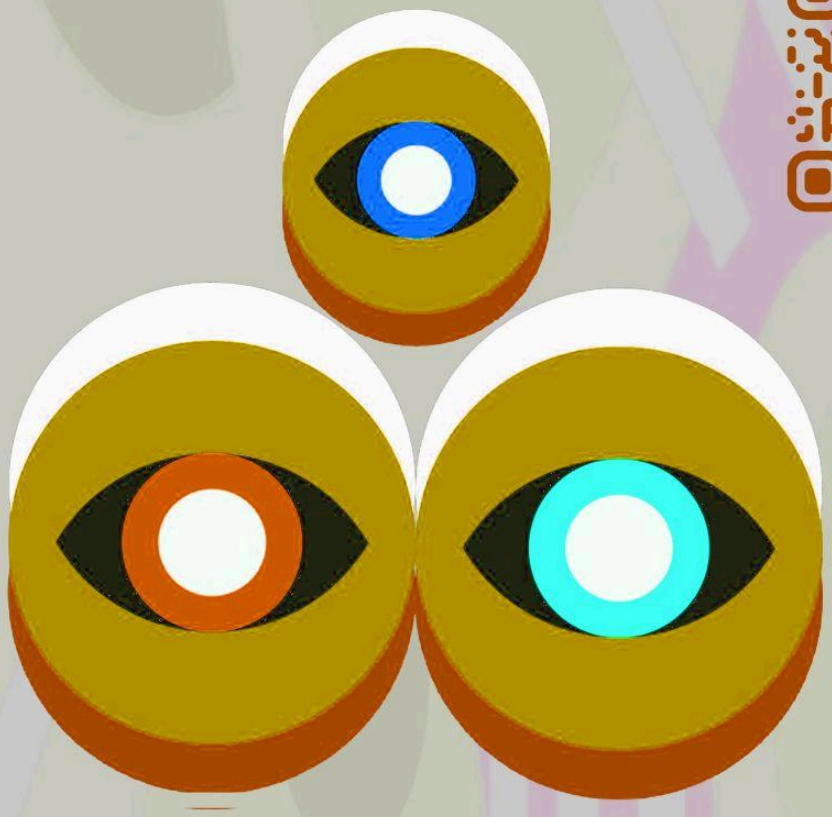
From: Institute Of Digital Arts Jamaica

ARTIFICIALLY GENERATED ANIMATION FILM PRODUCTION

(Non-Photorealistic Rendering [NPR])
(Physically Based Rendering [PBR])
(Odin Edition)



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“(ANM00) Animation - Artificially Generated Film Production”

Programme	: Animation Film Production
Department	: Film
Prerequisite	: CSEC® (Literature, Visual Arts, Theatre Arts, Music, Technical Drawing) (CAPE® Performing Arts Unit 1 and 2 or satisfactory demo-reel/interview)
Type Of Course	: Animation
Course Title	: “Animation - Artificially Generated Animation Film Production”
Course Code	: ANM00
Credits	: 3
Year	: Four (4)
Semester	: Two (2)
Duration	: 1 Semester, 15 weeks, 60 hrs (3 hrs per week)
Lecture Redistributor	: Israel Andrew Brown
Email	: israelandrewbrown@proton.me
Website	: https://github.com/israelandrewbrown/AGAFP
Discord	: discord.gg/unXGVPgH
Resources	: https://www.youtube.com/playlist?list=PL4ouDzfxGlYQK1rhavaAFrcFhmsT137EK
Rationale . . .	:This course addresses the growing need for digital professionals who can integrate A.I. tools into traditional filmmaking workflows, preparing students for an industry increasingly reliant on AI-enhanced production pipelines while maintaining core storytelling and technical animation skills.
Description	: This course leverages State of The Art (SoTA) free and open-source artificial intelligence models and software to produce an animated short film. Building on foundational film composition (storytelling, storyboarding, animatics, and video editing skills), students will learn methods in artificial digital asset generation. Understand and utilize 3D animation production techniques to effectively create, modify and compose artificially generated digital assets into a film. Troubleshoot common AI-related issues in animation film production.
Required Equipment:	Laptop (≤16gb ram) (≤256gb ssd), e-Mouse, Microphone, ≤50 mbps internet, room,
Optional Equipment	: GPU, Graphics Tablet, Graphics Pencil, HDMI-HDMI Cable, Video Capture Card, 4 WebCam, 4 USB Cable, 3 Three Tripods, 1 Charuco Board, 1 Helmet (relevant) Edge A.I. () (NVIDIA® GeForce® RTX ≤8gb) (Apple Silicon [M1][M2][M3][M4])
Objectives	:

1. Understand and utilize 3D animation production techniques to effectively generate, modify, & compose artificially generated digital assets into film.
2. Understand how artificial intelligence models can address and resolve inefficiencies in 3D animation pipelines, improving overall productivity.
3. Identify, analyze, and resolve common issues arising from the use of artificial intelligence in film production.
4. Understand the limitations of automation in animation and film production, recognizing which roles are more challenging to automate and why.

Course Assessment: .	Please note, knowledge gained from this course will be assessed in the “(PRJ00) Project – Individual Project” by its receptive examiner.
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This course material is intended for educational use and is based on the author's current understanding of the subject matter. While the author has taken reasonable steps to ensure the accuracy of the information presented, the rapidly evolving nature of artificial intelligence and film production means that some details may become outdated. The information in this book is distributed on an “As Is” basis without warranty. While every precaution has been taken in the preparation of the book, the author shall not have any liability to any person or entity with respect to any loss or damage caused or alleged to be caused directly or indirectly by the instructions contained in this book or by the operating systems, large language models, image diffusion models, computer vision models, computer software and hardware products described in it.

Week One
What is a film? What is “animation” and “twelve principles of animation”? What is “perspective”?
What is the “animation pipeline”, labor/skill? What are the occupations on the “animation pipeline”?
How to make “paper”/“charcoal” from wood? How to make a “bone flute”? How is “bronze” forged?

Week Two
What is an algorithm? What is “Artificial Intelligence"? What is “software user documentation”?
What is a Large Language Model (LLM)? What is stable diffusion? What is cv / pose detection?
What is the “Chain-of-Thought” and “Zero-shot” generation? What is a ControlNet? What is a Lora?
What is a computer? What is an operating system? What is hardware and software?
What is “free and open source”.? What are free and open source software licenses?
Why are file formats; [(.txt)(.jpeg)(.stl)(.usd)(.ogg)(.FLAC)(.srt)(.glb)(.csv)(.openEXR)(.mkv)] used?
What are references? What is “Glaze” software used for? What is “digital-watermarking”?

What is a “production-meeting”? What is creative “control” and “freedom”? What is “trial-and-error”.
What is “Edge Artificial Intelligence"? How to set up an “Edge Artificial Intelligence" workstation?
How to install relevant “free and open-source” models? Eg. “pinokio.computer” or “pinokio.co”

(WebUI[Gradio]) (ComfyUI) (ollama)

Week Three
(Lecture) Story Development
(Tutorial) Character / Story Structure (OpenWebUI [gpt-oss])

Week Four
(Lecture) Concept Development
(Tutorial) Visual Concept [Characters][Props][Set] (StableDiffusion)

Week Five-to-Six
(Lecture) Audio Development
(Tutorial) Expressive Voice Over (VC/tts/csm) (chatterbox-VC)(zonos-v0.1-tts)(csm)
(Tutorial) Subtitles (Whisper-v3)
(Tutorial) Music Design (Audio-to-Audio) (YuE[ICL])(DiffRhythm[ICL])(ACE-Step[ICL])
(Tutorial) Split Instrumentals/Vocal (Ultimate-Vocal-Remover-V5)
(Tutorial) Audio-to-MIDI (NeuralNote[Spotify-Basic-Pitch])
(Tutorial) Sound Effects (Stable-Audio-Open-1.0) (MMAudio)

Week Seven-Eight
(Lecture) Composition Development (what-ai-cannot-do) (Blender 4.0) (Krita 5.2)
(Tutorial) (Animatics, FX, 2DFX[Fog, Smoke/Fire, Water], VFX Compositing, Video Editing)

Week Nine
(Lecture) Prop Development
(Tutorial) Image-to-3dMesh [Characters][Props][Set] (Hunyuan3D-2.1) (Ultra3D) (TripoSG)
(Tutorial) Image-to-Map-to-3dMesh [Set] (Hunyuan-World-1.0)

Week Ten
(Lecture) Look Development
(Tutorial) Image Texture Generation[Characters][Props][Set] (Stable Diffusion-2.1)

Week Eleven-Thirteen
(Lecture) Motion Development
(Lecture) Traditional-Concepts-Through-Computer-Animation
(Tutorial) “Face” - Motion Capture (FaceLandmarkLink-V0.23)
(Tutorial) “Body” - Motion Capture (FreeMoCap-v1.5)

Week Fourteen :
(Lecture) Motion Development (cont’d)
(Tutorial) “Face/Body” - Pose Detection (t2v i2v v2v) (Wan 2.2-14b)

Week Fifteen :
(Critique) Showcase and review of completed projects.

Course Review : https://github.com/israelandrewbrown/AGAFP
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Bibliography

Vaswani, Ashish, Noam Shazeer, Niki Parmar, Jakob Uszkoreit, Llion Jones, Aidan N. Gomez, Lukasz Kaiser, Illia Polosukhin. "Attention Is All You Need." arXiv:1706.03762, 2017.

DeepSeek-AI, et al. "DeepSeek-R1: Incentivizing Reasoning Capability in LLMs via Reinforcement Learning." arXiv:2501.12948, 22 Jan. 2025.

Llama Team, et al. “The Llama 3 Herd of Models”, arXiv:2407.21783, 2024.

OpenAI. “Introducting gpt-oss”. *OpenAI,* https://openai.com/index/introducing-gpt-oss/. 2025.

Rombach, Robin, Andreas Blattmann, Dominik Lorenz, Patrick Esser, Björn Ommer. "High-Resolution Image Synthesis with Latent Diffusion Models." arXiv:2112.10752, 2021.

Black Forest Labs. “FLUX”. *GitHub,* https://github.com/black-forest-labs/flux. 2024.

Wu, Chenfei, et al. "Qwen-Image Technical Report." arXiv:2508.02324, 2025.

Resemble AI. *“*Chatterbox-TTS*”. GitHub*, https://github.com/resemble-ai/chatterbox. 2025.

Radford, Alec, Jong Wook Kim, Tao Xu, Greg Brockman, Christine McLeavey, Ilya Sutskever. "Robust Speech Recognition via Large-Scale Weak Supervision." arXiv:2212.04356, 2022.

Yuan, Ruibin, et al. "YuE: Scaling Open Foundation Models for Long-Form Music Generation." arXiv:2503.08638, 2025.

Ning, Ziqian, et al. "DiffRhythm: Blazingly Fast and Embarrassingly Simple End-to-End Full-Length Song Generation with Latent Diffusion." arXiv:2503.01183, 2025.

Gong, Junmin, Sean Zhao, Sen Wang, Shengyuan Xu, Joe Guo. "ACE-Step: A Step Towards Music Generation Foundation Model." arXiv:2506.00045, 2025.

Takahashi, Naoya, Yuki Mitsufuji. "Multi-scale Multi-band DenseNets for Audio Source Separation." arXiv:1706.09588, 2017.

Bittner, Rachel M., et al. "A Lightweight Instrument-Agnostic Model for Polyphonic Note Transcription and Multipitch Estimation." *Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, 2022, Singapore.

Evans, Zach, Julian D. Parker, CJ Carr, Zack Zukowski, Josiah Taylor, Jordi Pons. "Stable Audio Open." arXiv:2407.14358, 2024.

Cheng, Ho Kei, Masato Ishii, Akio Hayakawa, Takashi Shibuya, Alexander Schwing, Yuki Mitsufuji. "MMAudio: Taming Multimodal Joint Training for High-Quality Video-to-Audio Synthesis." arXiv:2412.15322, 2024.

Yang, Lihe, Bingyi Kang, Zilong Huang, Zhen Zhao, Xiaogang Xu, Jiashi Feng, Hengshuang Zhao. "Depth Anything V2." arXiv:2406.09414, 2024.

Yang, Zhendong, Ailing Zeng, Chun Yuan, Yu Li. "Effective Whole-body Pose Estimation with Two-stages Distillation." arXiv:2307.15880, 2023.

Team, HunyuanWorld, et al. "HunyuanWorld 1.0: Generating Immersive, Explorable, and Interactive 3D Worlds from Words or Pixels." arXiv:2507.21809, 2025.

Tencent Hunyuan. "Hunyuan3D 2.1: From Images to High-Fidelity 3D Assets with Production-Ready PBR Material." *arXiv preprint arXiv:2506.15442*, 2025.

Tochilkin, Dmitry, et al. "TripoSR: Fast 3D Object Reconstruction from a Single Image." arXiv:2403.02151, 2024.

Chen, Yiwen, Zhihao Li, Yikai Wang, Hu Zhang, Qin Li, Chi Zhang, Guosheng Lin. "Ultra3D: Efficient and High-Fidelity 3D Generation with Part Attention." arXiv:2507.17745, 2025.

Qaanaaq. "Face_Landmark_Link." *GitHub*, https://github.com/Qaanaaq/Face_Landmark_Link. 2023.

Mattis, Johnathon, et al. "Freemocap" *Github,* https://github.com/freemocap/freemocap. 2021

Wan, Team, et al. "Wan: Open and Advanced Large-Scale Video Generative Models." arXiv:2503.20314, 2025.

Nakamoto, Satoshi. "Bitcoin: A Peer-to-Peer Electronic Cash System." Bitcoin.org, 2008.
Access the document here: https://bitcoin.org/bitcoin.pdf

(PRJ00) Project – Individual Project

Individual Short Film (1minutes - 15minutes)
Pre-Production, Production and Post-production, Marketing and Distribution.
Students may also be granted an extension to finish their project during the summer semester.
By Group or Individually produce a short film. This Project has five (5) sections.
The Project at completion would contain the following.

Section One - Pre-production

1. Research Paper
2. Treatment (Author, Title, Log-line, Synopsis, Characters)
3. Screenplay (three-act-structure) (Standard Formatting) (must use screenplay software)
4. Concept Art (characters - three [≤3])
   - action poses,
   - face expressions,
   - turnarounds,
   - displaying the twelve [12] principles of animation.

   Concept Art (props)
   Concept Art (environments)
5. Shot List (scene no., shot no.,shot type, shot descr., camera movement, Location)
6. Storyboard (colour coded characters, direct of movement, camera movement)
7. Story-Beats
8. Animatic (panel/keyframe, camera movement, sound effects and expressive voiceover)
9. Expenditure (Gantt-Chart, Human resources, Software/Equipment and Budget)
10. Pitch (Presentation for “Summary Of Pre-production”)

[Greenlight Statement (Proof-Of-Funding)]

Section Two - Production
Files of the following artificially generated digital assets:

1. Assets - (Text-Concept) (.txt)(.fountain)
2. Assets - (Visual-Concept) (.jpeg)
3. Assets - (Expressive Voiceover, Subtitles, Sound Effects, Music) (.FLAC)(.srt)
4. Assets - (Character-Prop-Environment) (.usd)(.stl)(.glb)
5. Assets - (PBRTextures [Character-Prop-Environment]) (.usd)(.stl)(.glb)(.ply)
6. Assets - (Motion Capture Data [Input data, output data]) (.csv)
7. Assets - (Shots of Short Film and Credits Sequence)(≤1 min) (.exr) (.mkv)

Section Three - Post-production

1. Modification of “artificially generated digital assets”.
2. Composition of “artificially generated digital assets” into a complete film.
3. Utilization of FX, 2DFX, VFX, to enhance film composition.
4. Arrangement of film through video editing and color grading.
5. Presentation of film

Selection Four - Marketing

1. Brand Identity
2. Poster (YouTube Thumbnail) (Cover Art) (Title Card)
3. Studio Website (Home, About, Contact [Studio and Workers], Blog, Merch [optional])
4. Credits Sequence (video and spreadsheet)
5. Grant, Direct-Promotion, Indirect-Promotion, Rebate, Tax-Credit.

Section Five - Distribution
[Optional Distribution through Film Festival]
YouTube® Channel Creation - Upload in order

1. Teaser - Title Card (Thirty [10] seconds)
2. Teaser (Ten-Thirty [10-30] seconds)
3. Trailer (one [1] minute - three [3] minutes)
4. Behind-the-scenes Documentary (<7 minutes)
   a. Teaser at the beginning and title card at end
   b. Footage of some of the work being done.
   c. Processes and visual breakdown of artificially generated digital assets.
   d. Interview of the project manager/director/lecturer.
5. Completed Short Film (1-15 minutes)

There should be five (5) videos on the channel or profile at completion.

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Demonstration Spaces (Software As A Service [SaaS])	
Model Name	**Links**
gpt-oss	<DemontrationSpace>
Stable-Diffusion	https://huggingface.co/spaces/stabilityai/stable-diffusion
chatterbox-VC	https://huggingface.co/spaces/ResembleAI/Chatterbox
Whisper-v3	https://huggingface.co/spaces/openai/whisper
DiffRhythm[ICL]	https://huggingface.co/spaces/ASLP-lab/DiffRhythm
Ultimate-Vocal-Remover-v5	https://github.com/Anjok07/ultimatevocalremovergui
NeuralNote [Spotify-Basic-Pitch]	https://basicpitch.spotify.com/
Stable-Audio-Open-v1.0	<DemontrationSpace>
MMAudio	https://huggingface.co/spaces/hkchengrex/MMAudio
Hunyuan-World-1.0-lite	<DemontrationSpace>
Hunyuan3D-2.1	https://huggingface.co/spaces/tencent/Hunyuan3D-2.1
TripoSG [cpu] TripoSR [cpu]	https://huggingface.co/spaces/VAST-AI/TripoSG https://huggingface.co/spaces/stabilityai/TripoSR
Ultra3D	https://huggingface.co/spaces/ilcve21/Sparc3D
FreeMoCap Face_Landmark_Link	https://github.com/freemocap/freemocap https://github.com/Qaanaaq/Face_Landmark_Link

Generative Artificial Intelligence Models (Software User Documentation)		
Model Name	**License**	**Official Github Repository**
gpt-oss	*Apache-2.0-License*	https://github.com/openai/gpt-oss
Stable-Diffusion-2.1	*MIT-License*	https://github.com/Stability-AI/stablediffusion
chatterbox-VC/tts	*MIT-License*	https://github.com/resemble-ai/chatterbox
Whisper-v3	*MIT-License*	https://github.com/openai/whisper
DiffRhythm[ICL]	*Apache-2.0-License*	https://github.com/ASLP-lab/DiffRhythm
UVR-v5	*MIT-License*	https://github.com/Anjok07/ultimatevocalremovergui
Spotify-Basic-Pitch	*Apache-2.0-License*	https://github.com/spotify/basic-pitch
Stable-Audio-Open-1.0	*Stability-AI-Community-License*	https://github.com/Stability-AI/stable-audio-tools
MMAudio	*MIT-License*	https://github.com/hkchengrex/MMAudio
Hunyuan-World-1.0-lite [gpu]	Tencent-*Community-License*	https://github.com/Tencent-Hunyuan/HunyuanWorld-1.0
Hunyuan3D-2.1 [gpu]	Tencent-*Community-License*	https://github.com/Tencent-Hunyuan/Hunyuan3D-2.1
TripoSR [cpu] TripoSG [cpu]	*MIT-License*	https://github.com/VAST-AI-Research/TripoSG https://github.com/VAST-AI-Research/TripoSR
Ultra3D	*<License>*	https://github.com/lizhihao6/Sparc3D
FreeMoCap (Mediapipe)(OpenCV)	*Apache-2.0-License*	https://github.com/google-ai-edge/mediapipe https://github.com/opencv/opencv

Useful Links *(Compatible with "Blender 4.0" "Krita 5.2.3")*

StoryLiner (Animatics) *(GPL-3.0-License)* https://superhivemarket.com/products/storyliner	**SaveSelection** (Export-Import[.blend]) *(GPL-3.0-License)* https://github.com/israelandrewbrown/ExportImport-Selection
AutoCam *(GPL-3.0-License)* https://renderrides.gumroad.com/l/autocam	**Camera-Shakify** *(GPL-3.0-License)* https://github.com/ra100/camera_shakify

Sculpt Layers (CC-BY-4.0) https://superhivemarket.com/products/sculpt-layers	**Boot Tool** *(GPL-2.0-License)* [natively-built-into-Blender]
QRemeshify (Quad-Remesher) *(GPL-3.0-License)* https://github.com/ksami/QRemeshify/releases/tag/1.1.0	**PolyQuilt** (Retopology) *(GPL-3.0-License)* https://github.com/AIGODLIKE/PolyQuilt
OkTopo-Remesher (Retopology) *(GPL-3.0-License)* https://yegorkumachov.gumroad.com/l/oktopo	**AutoUV** (UV Unwrapper) (custom license) https://www.quelsolaar.com/ministry_of_flat/

Ucupaint (Textures) *(GPL-3.0-License)* https://github.com/ucupumar/ucupaint	**AutoReload** (v2.0.3) (Blender-Krita Bridge) *(GPL-3.0-License)* https://github.com/samytichadou/Auto_Reload_Blender_addon
Quick Edit (Blender-Krita_Bridge) [natively-built-into-Blender]	**Oven Bake** (Texture Bake) *(GPL-3.0-License)* https://superhivemarket.com/products/ovenbake

fSpy (https://fspy.io/) *(GPL-3.0-License)* https://github.com/stuffmatic/fSpy-Blender	**DeepBump** (Image-to-NormalMap) *(GPL-3.0-License)* https://github.com/HugoTini/DeepBump
Zform (Map-to-Mesh) *(GPL-3.0-License)* https://superhivemarket.com/products/zform	**Depth Map Batch** (Image-to-DepthMap) *(GPL-3.0-License)* https://superhivemarket.com/products/depth-map-batch-for-images
Stable Projectorz (custom-license) https://stableprojectorz.com/	**Dream Textures** [NVIDIA-only] [MacOS] *(GPL-3.0-License)* https://github.com/carson-katri/dream-textures

AutoRigPro / ARP-to-Rigify (R-F) *(GPL-3.0-License)* https://superhivemarket.com/products/auto-rig-pro	**TransportRig** *(GPL-3.0-License)* https://blenderigmaster.gumroad.com/l/vrf_plus
Skinning *(GPL-3.0-License)* https://superhivemarket.com/products/voxel-heat-diffuse-skinning	**RiggingTools** *(GPL-3.0_License)* https://joshdoyle.gumroad.com/l/jd_rigging_tools

FreeMoCap v1.5 *(AGPL-3.0-License)* https://github.com/freemocap/freemocap **BlendArMocap** (FreeMoCapRig to "Rigify") *(GPL-3.0)* https://github.com/cgtinker/BlendArMocap	**Faceit** *(GPL-3.0-License)* https://superhivemarket.com/products/faceit **Face_Landmark_link** *(Apache-2.0-License)* https://github.com/Qaanaaq/Face_Landmark_Link

RealMotionPro (Animation-Library) *(GPL-3.0-License)*
https://superhivemarket.com/products/realmotion-pro-blender-addon-for-animation

X-PosePicker/GPLPicker (R-F) *(GPL-3.0-License)* https://superhivemarket.com/products/x-pose-picker https://munorr.gumroad.com/l/ft-anim-picker-blender	**BoneSelector** *(GPL-3.0-License)* https://phihung250693.gumroad.com/l/iyutsk ----------
AnimationLayers *(GPL-3.0-License)* https://superhivemarket.com/products/animation-layers	**F-Curve Wizard** *(GPL-3.0-License)* https://superhivemarket.com/products/f-curve-wizrd
RigUI *(GPL-3.0-License)* https://superhivemarket.com/products/rig-ui	**Dynamic Parent** (v2.0.2) *(GPL-3.0-License)* https://github.com/romanvolodin/dynamic_parent
ReTime *(GPL-3.0-License)* https://superhivemarket.com/products/retime	**DJV** (frameNumber-video) *(BSD-3-Clause-Licence)* https://github.com/darbyjohnston/DJV
Onion Skin Tools *(GPL-3.0-License)* https://superhivemarket.com/products/onion-skin-tools	**Playblast** (preview animation) *(GPL-3.0-License)* https://github.com/RxLaboratory/DuBlast

Blend Craft Compositor / VFX BreakdownMaker *(GPL-3.0-License)*
https://superhivemarket.com/products/blend-craft-compositor-blender-plugin-by-3dt
https://superhivemarket.com/products/breakdown-maker

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Useful Links *(Compatible with "Blender 4.0" for VFX)*
Freezing Effect Generator (Frost) *(GPL-3.0-License)* https://maroc777772.gumroad.com/l/Freezing-Effect-Generator
Alt Tab Easy Fog (Fog) *(GPL-3.0-License)* https://superhivemarket.com/products/alt-tab-easy-fog
Water Shader (Water) *(GPL-3.0-License)* https://chuckcg.gumroad.com/l/sxbcnw
Dynamic Rain (Rain) *(GPL-3.0-License)* https://cgcool.gumroad.com/l/lxmii
Particle-X (Particles) *(GPL-3.0-License)* https://superhivemarket.com/products/particles-x
Electro (Lighting) *(GPL-3.0-License)* https://maroc777772.gumroad.com/l/yupnu
Dust Particles (Dust) (*Royalty-Free*) https://superhivemarket.com/products/dust-particles
Smoke Scatter (Smoke) *(GPL-3.0-License)* https://cgcool.gumroad.com/l/ybsfu
Fire Scatter (Fire) *(GPL-3.0-License)* https://cgcool.gumroad.com/l/xrwyo

Lazy Forest Generator () *(Royalty-Free)* https://superhivemarket.com/products/lazy-forest-generator-addon
Stylized Animated Grass () *(Royalty-Free)* https://superhivemarket.com/products/grasspaint-stylized-animated-grass-assets-library
Stylized Trees/Plants Library () *(Royalty-Free)* https://superhivemarket.com/products/flora-paint-stylized-tree-and-plants-library
Stylized Tree Asset Generator () *(Royalty-Free)* https://superhivemarket.com/products/stylized-tree-generator
Open Scatter (Object Scatter) *(GPL-3.0-License)* https://superhivemarket.com/products/openscatter

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Software Website (Github)	License
7Zip (File Archiver) https://github.com/ip7z/7zip	*(LGPL, BSD 3-clause*
Audacity (Audio Editor) https://github.com/audacity/audacity	*GPL-3.0 license*
Balena Etcher (Electronics) https://github.com/balena-io/etcher	*Apache-2.0 license*
BeeRef (Image Reference Projection) https://github.com/rbreu/beeref	*GPL-3.0 license*
Bitcoin-Core (Wallet/Node) https://bitcoin.org/en/bitcoin-core/	*MIT license*
Blender (3D Visual Creativity Suite) https://github.com/blender/blender	*GPL-3.0 license*
Comfy UI (Image Generation) https://github.com/comfyanonymous/ComfyUI	*GPL-3.0 license*
Docker (Software Virtualization) https://github.com/docker/docker-install	*Apache-2.0 license*
DJV (FrameNumber) https://github.com/darbyjohnston/DJV	*BSD-3 Clause Licence*
Electrum (BTC Wallet) https://github.com/spesmilo/electrum	*MIT license*
Element (Vst2-to-Vst3) https://github.com/kushview/element	*Apache-2.0 license*
Face_Landmark_link (Motion Capture) https://github.com/Qaanaaq/Face_Landmark_Link	*Apache-2.0 license*
FFmpeg (Render [for Krita]) https://github.com/FFmpeg/FFmpeg	*Mixed*
Flameshot (Reference Image Capture) https://github.com/flameshot-org/flameshot	*GPL-3.0 license*
FreeCAD (CAD Engineering) https://github.com/FreeCAD/FreeCAD	*LGPL license*
FreeMoCap (Motion Capture) https://github.com/freemocap/freemocap	*AGPL-3.0 license*
Firefox (Web Private Browser) [faster] https://github.com/mozilla/	*MPL-2.0 license*
fSpy (Image Projection) https://github.com/stuffmatic/fSpy-Blender	*GPL-3.0 license*
GIMP (Image Manipulation) https://github.com/GNOME/gimp	*GPL-3.0 license*
Godot (Game Design Engine) https://github.com/godotengine/godot	*MIT license*
Git (Version Control) https://git-scm.com/downloads	*GPL-2.0-license*
HandBrake (Video Transcoder) https://github.com/HandBrake/HandBrake	*GPL-2.0 license*
Inkscape (Image Graphics [Vector]) https://github.com/inkscape/inkscape	*GPL-2.0 license*
Kinovea (SyncVideo) https://github.com/Kinovea/Kinovea	*GPL-2.0 license*
Krita (2D Visual Creativity Suite) https://github.com/KDE/krita	*GPL-3.0 license*
LibreCAD (Drafter Architecture) https://github.com/LibreCAD/LibreCAD	*GPL-2.0 license*
LibreOffice (Productivity Office Suite) https://github.com/libreoffice	*GPL-2.0 license*
LMMS (Music Design) https://github.com/LMMS/lmms	*GPL-2.0 license*
Ollama (Run [llm]) https://github.com/ollama/ollama	*MIT license*
OBS Studio (Broadcasting) https://github.com/obsproject/obs-studio	*GPL-2.0 license*
OpenToonz (2D animation software) https://opentoonz.github.io/e/	*BSD-3 Clause*
Pinokio (one-click install AI Models) https://github.com/pinokiocomputer/pinokio	*MIT license*
Proton VPN (Virtual Private Network) https://github.com/ProtonVPN/win-app	*GPL-3.0 license*
PyCharm CE (Python IDE) https://github.com/phracek/pycharm-community-edition	*GPL-2.0 license*
Python (Python) https://github.com/python/cpython	**mixed*
qBittorrent (File Sharing) https://github.com/qbittorrent/qBittorrent	*GPL-2.0 license*
QEMU (Emulator) https://github.com/qemu/qemu	*GPL-2.0 license*
Fstl (File Data Viewer) https://github.com/fstl-app/fstl	*MIT license*
SumatraPDF (PDF, EPUB,CRB Reader) https://github.com/sumatrapdfreader/sumatrapdf	*GPL-3.0 license*
Musescore (Music Notation) https://github.com/musescore/MuseScore	*GPL-3.0 license*
Natron (2D Compositing)(VFX) https://github.com/NatronGitHub/Natron	*GPL-2.0 license*
Neural Note (audio-to-midi) https://github.com/DamRsn/NeuralNote	*Apache-2.0 license*
TOR Browser (Private Browsing) [slow] https://github.com/TheTorProject/gettorbrowser	*unknown*
Trelby (Screenplay Software) https://github.com/trelby/trelby	*GPL-2.0 license*
Ultimaker Cura (3D Printing) https://github.com/Ultimaker/Cura	*LGPL 3.0 license*
Ultimate Vocal Remover V5 (Split) https://github.com/Anjok07/ultimatevocalremovergui	*MIT license*
VLC Media Player (Media Player) https://github.com/videolan/vlc	*mixed*
VS Code (Code IDE) https://github.com/microsoft/vscode	*MIT license*
WineHQ (Productivity Office Suite) https://wiki.winehq.org/Download	*LGPL*

“The Ten Essential Roles On The New Pipeline”
Producer A producer guides a film from its beginning to its completion. They have a hand in organizing and scheduling, budgeting and hiring, creative problem-solving and overseeing, and marketing and distributing. A producer may be a self-employed contractor, or subject to the authority of an employer such as a production company or studio. They are involved throughout all phases of production from inception to completion. <citation>
Director This person is responsible for designing sets, overseeing construction workers and other artists, and playing a part in figuring out the overall aesthetic of a movie production. <citation>.
Technical Artist This person (Programmer) helps video game development teams create interactive, visually appealing games for consoles and apps. They use both artistic and coding skills to integrate artwork and animation into complex game systems and film. <citation>.
Artificial Intelligence Operator [Story] [Concept] [Audio] [Prop] [Look] [Movement] This (Developer) is a professional who designs, trains, and monitors AI systems. They work as a liaison between human operators and AI systems, ensuring that AI systems are integrated into existing workflows. <citation>.
Layout-Artist / Animatic-Artist This person creates animatics, which are sequences of images, shots, or sketches that are used to plan a video. Animatics are used in many fields, including animation, television commercials, and movie production. Animatics are a technique that comes after storyboarding, and they can help ensure that a project is on track and will be effective. They can be used to: see how the final product might look. Give a rough draft of how a particular idea will play out. Animatics are usually made by editing storyboard images together with dialogue, sound effects, and music. <citation>
VFX Compositing Artist This is the last piece of the puzzle you need to make effects look realistic. It combines the work of animators, videographers, and special effects artists to create effects that blur lines. <citation>.
Video Editor This person uses scenes, takes, and shots to create a cohesive story for the screen. Editors use continuity editing, cutaways, and transitions to evoke certain emotions from the viewer and properly execute an entertaining plot. Video editors for film cut a scene from different angles, which directs the viewer to certain details in a story. <citation>.
Graphic Designer Graphic designers create visual concepts, using computer software or by hand, to communicate ideas that inspire, inform, and captivate consumers. <citation>
Attorney-At-Law [Lawyer] A lawyer (also called attorney, counsel, or counselor) is a licensed professional who advises and represents others in legal matters. Today’s lawyer can be young or old, male or female. Nearly one-third of all lawyers are under thirty-five years old. Almost half of the law students today are women, and women may ultimately be as numerous in the profession as men. <citation>
Accountant An accountant is a financial professional who reviews and analyses financial records and keeps track of a company's or individual's income, expenditures, and liabilities. An accountant may also work in project planning, cost analysis, auditing, and financial decision-making. Some specialize in tax preparation and tax planning. Accountants may work for large companies or external accounting firms. They must meet state-specific educational and testing requirements and are certified by national professional associations. <citation>

