ML & Education & Gardening

and digital rocks(?)

Started with ML, Poverty, Transit Switched to ML, Poverty, Cartography Switched to ML, Education, Cartography Ended on ML, Education, Gardening

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Machine learning (for the production and manipulation of assets)

    Past (basic terminology that has defined this topic)

          o Science fiction?
          o Patterns
          o Reinforcement learning
          o Repetitively trained.
          o Data based.
          o Models
          o Algorithm -> what do these look like?

    Neural network

          o Algorithm

    Supervised learning

                         · Perceptron (important reading: https://en.wikipedia.org/wiki/Perceptron)
                                 o Binary classifier (vector of numbers)
          o ADALINE
          o Generalized linear model of statistics.

    Probabilistic reasoning.

          o Symbolic artificial intelligence

    Expert systems

          o Inductive logic programming
          o Pattern recognition and information retrieval
          o Connectionism
          o Backpropagation
          o Started to flourish as its own field (ML) in the 1990s
          o Shifted focus from symbolic approaches toward methods and models borrowed from statistics, fuzzy logic and probability theory.

    Data mining (focuses on discovery of previously unknown properties in data, whereas ML is prediction based on known properties)

    Unsupervised learning

          o Optimization

    Loss function

          o Generalization
          o Deep learning

    In contrast, machine learning is not built on a pre-structured model; rather, the data shape the model by detecting underlying patterns.

          o Random forest or random decision forest.
          o Computational learning theory
          o Bias-variance decomposition
          o Overfitting

    Supervised learning

    Unsupervised learning

    Feature learning

          o Reinforcement learning
   - Present (current issues and problems)
          o Who are the top players?
          o Legality?
          o "Once that first blush fades, it becomes clear that
              ChatGPT doesn't actually know anything-instead, it outputs
              compositions that simulate knowledge through persuasive
               structure. And as the novelty of that surprise wears off, it is
               becoming clear that ChatGPT is less a magical wish-granting
               machine than an interpretive sparring partner, a tool that's most
              interesting when it's bad rather than good at its job." The Atlantic article.
          o Explainability.
          o Bias
          o Ethics
          o Check Github lists

    https://github.com/josephmisiti/awesome-machine-learning

          o At home tonight, follow those Twitter pages

    Diffusion model

   - Future (emerging/speculative areas)
          o Science fiction again?
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Educa	ion	
	Past (b	asic terminology that has defined this topic)
	0	https://en.wikipedia.org/wiki/Glossary_of_education_terms
	0	Skill building
	0	Oral communication and imitation
	0	Writing
	0	Transmitting of knowledge
	0	Informal vs formal education (formal was rare in ancient society)
	0	Scribes and priests mostly were educated.
	0	Universities / guilds
	0	Printing press in 15 th century
	0	Literacy
	0	Public education (18th and 19th century)
		 Publicly funded schools
		 Aztec civilization was an exception since formal education was mandatory for the youth regardless of class (as early as 14th century
	0	Universal Declaration of Human Rights, the Convention on the Rights of the Child, types of 20th and 21th century initiatives.
	0	Primary education
	0	Higher education
	0	Standardized curricula
	0	Standardized tests
	0	Assessments
	0	Teaching certification standards
	0	Online education
	0	Remote learning
	0	Video lessons
	0	Globalization and internationalization of education
-	Presen	t (current issues and problems)
		Criticism of schooling (i.e., critical race theory or WGSS)
	0	COVID school (remote learning)
	0	Education through AI
	0	Gamification of learning
		 https://en.wikipedia.org/wiki/Gamification_of_learning
	0	Microlearning
	0	Blended learning
	0	AR
	Future	(emerging/speculative areas)
	0	https://edu.google.com/intl/ALL_us/future-of-education/
	0	https://wwwZ.ed.gov/documents/ai-report/ai-report.pdf
	0	

Cartography, Cartography (/kor/tografi/; from Ancient Greek: xdorns chartes, "papyrus, sheet of paper, map"; and yodoeu graphein, "write") is the study and practice of making and using maps. Combining science, aesthetics and technique, cartography builds on the premise that reality (or an imagined reality) can be modeled in ways that communicate spatial information effectively. Past (basic terminology that has defined this topic) Rock carvings (prehistoric alpine) Dotted rectangles and lines o Depict 2nd century CE, Ptolemy wrote treatise, Geographia o Ecumene: the known, inhabited or habitable world (ancient Greece) o Star chart Pole star – useful for navigation o Mappae mundi, maps of the world o Planisphere o Map projection o Atlas, a collection of maps o Maps were displayed with equal importance of painting, sculptures, and other pieces of art, as they began to be used to impress and establish an owner's reputation (in the Renaissance) Three functions during the Renaissance General descriptions of the world Navigation and wayfinding · Land surveying and property management Map trade o Printing, lettering, color o Aerial photography, satellite imagery, remote sensing Ground tracks o Cartogram o Satellites and mapping of other planets o Digital raster graphic o GPS o Laser rangefinder o Virtual globe Satnav devices Spatial information stored on databases. Deconstruction of maps, this is super critical to swing back to o Fantasy cartography? Fictional maps? Present (current issues and problems) Future (emerging/speculative areas)

Thoughts

o Maps are how we understand transcending space, video games break or tweak how this can happen. So can shows (Severance) & movies. Orientation of the map can tell a false story.

Even a 3D model is a map, UV map.

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ML and Cartography - these all lean toward cartography so far.

    Drought forecasting https://proxy.lib.ohio-state.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&site=eds-

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      Lots of remote sensing articles
      A lot of prediction of data (on human body, or planetary scale)
   - Productivity predictions https://proxy.lib.ohio-state.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&site=eds-
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   - Analysis of mining, water management, preservation https://proxy.lib.ohio-state.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&site=eds-
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      Climate change, tree canopy mapping, heat island, https://proxy.lib.ohio-state.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&site=eds-
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   - Air temperature estimation over winter wheat fields https://proxy.lib.ohio-state.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&site=eds-
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    Detection of algal bloom https://proxy.lib.ohio-state.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&site=eds-

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    Philosophy of ML and remote sensing "fake" imagery https://proxy.lib.ohio-state.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&site=eds-

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    Social spatial studies per consumerism https://eds.p.ebscohost.com/eds/detail/detail?vid=0&sid=b355c680-ce36-4b6e-83c2-e4efba97a384%

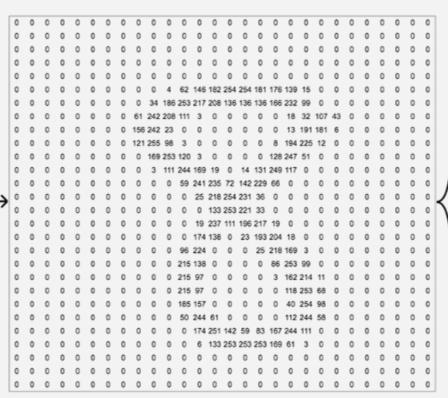
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       Detection of pine wilt disease https://proxy.lib.ohio-state.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&site=eds-
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2020 and later stuff (ML being utilized a lot in geodata related studies)

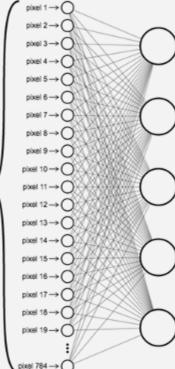
    Measuring zones of armed conflict

      Climate change or natural disaster per prediction of satellite and remote sensing data
      Predictions per imaging of the human body (x-ray, scans, etc.)
      Prediction for climate change, crop yields, and more.
       Perfecting conditions for crops
       Detection
      Categorization and generalization

    Inequality study

      Route optimization
https://dl.acm.org/action/doSearch?AllField=cartography+machine+learning&expand=all&ConceptID=118182
Other
       Robots mapping environments https://proxy.lib.ohio-state.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&site=eds-
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8

28 x 28 784 pixels

Hologram example: https://www.youtube.com/watch?v=sv-38lwV6vc



http://dataphys.org/list/jller-a-robot-rearranges-pebbles-by-geologic-age/



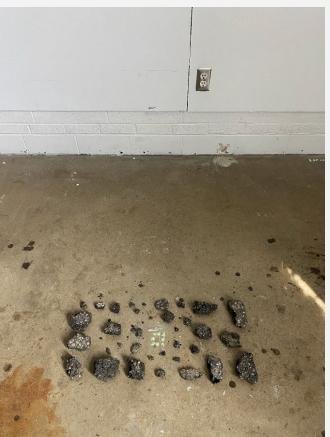
Untitled, 1989, Stanley Whitney, Crayon on paper



Sketchbook, 2017, Stanley Whitney

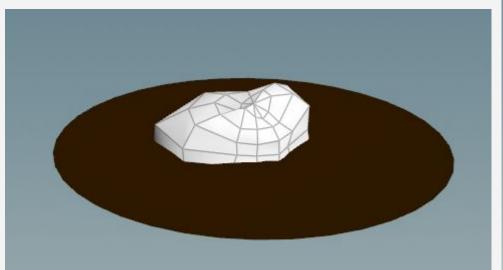


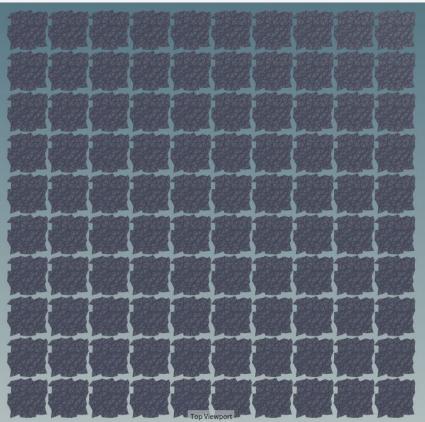


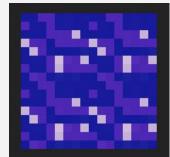




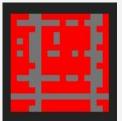
Studio studies on various forms of artificial rock formations









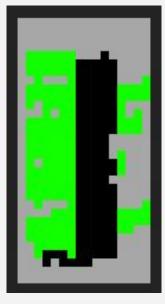




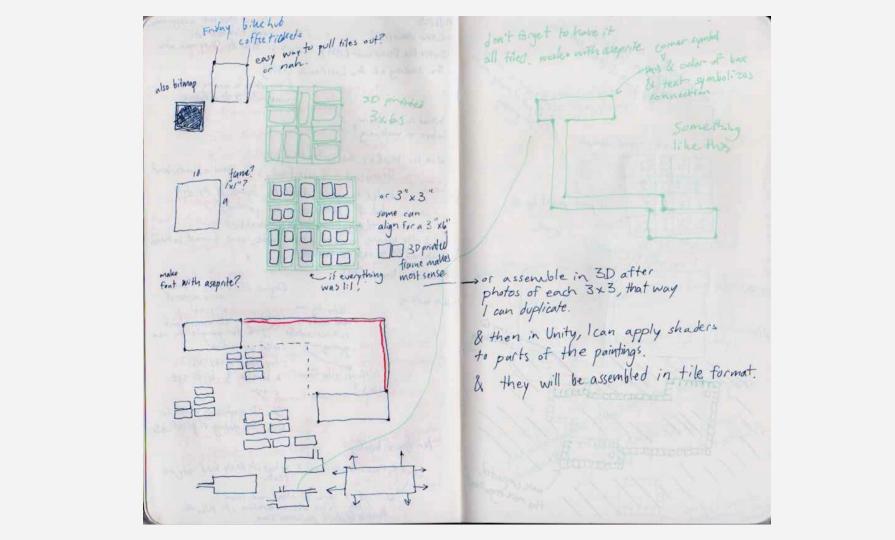


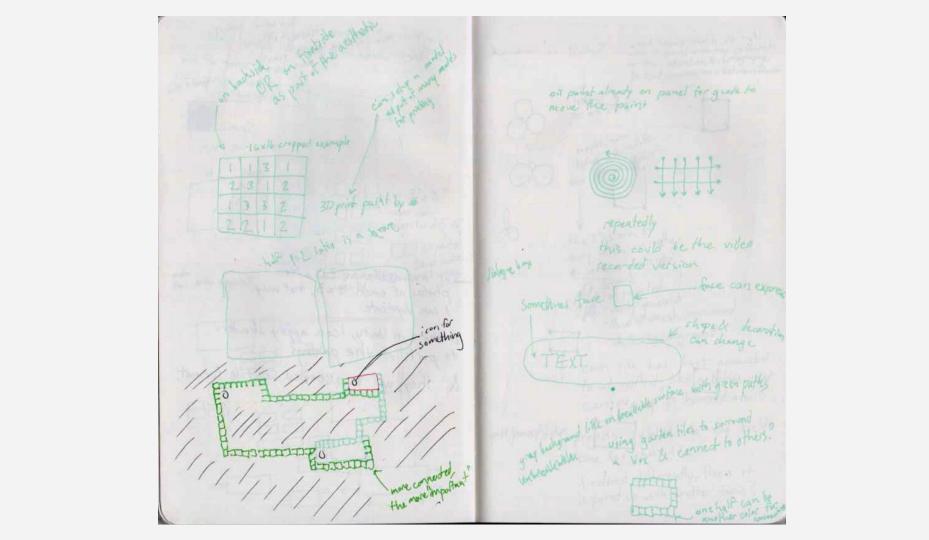








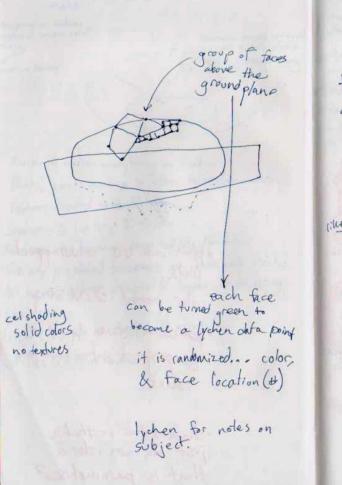


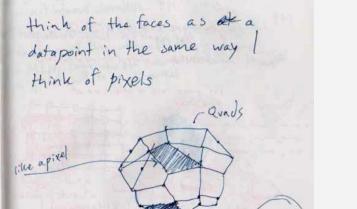


magnitude of help or alignment in my or just scatter them all about - game bjects, not tile maps ML - grass type - pixel Edu - Pholymer grass type 2 - bouding Projects grass type 3 - painted ML& cart - flower 1 - pixel Cartography ML & Edu - flower 2 - howling ~ ML& Cortegraphy connection Edutal & Cont - flower3 - painted when there is a lignment between All three - tree sappling - once randomized pixel, houding 2.3 topics Pixel, houdini, or painted - can hover over hovering over the each time the garden is tile reveals the randomized. bubble for what it is can be any type of generated tile Hower or ground or water of tree similar to that project I viewed by made with psijs & NFT'd, flower research tilemap arranged on random & or with noise & is an alray of research titles or w/e. maybe even a linh?

any amount of pixels, but, every object is !! the more pixels, the more into /research or an area Ul selector with 0000000000 arrows study of seeds instead of curtography? diagram the map & where things go in my sketchbook then male a finished version in Unity. Option

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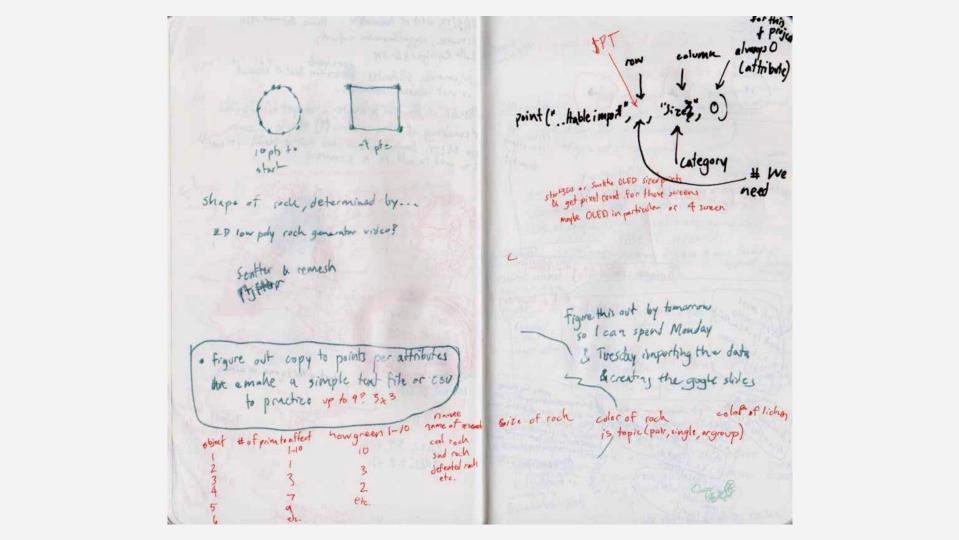
connectivity = triangles

triangles

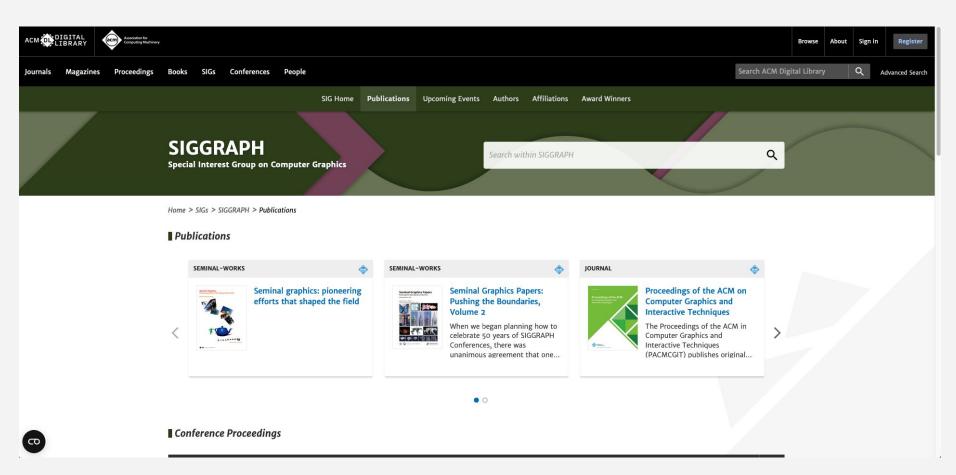
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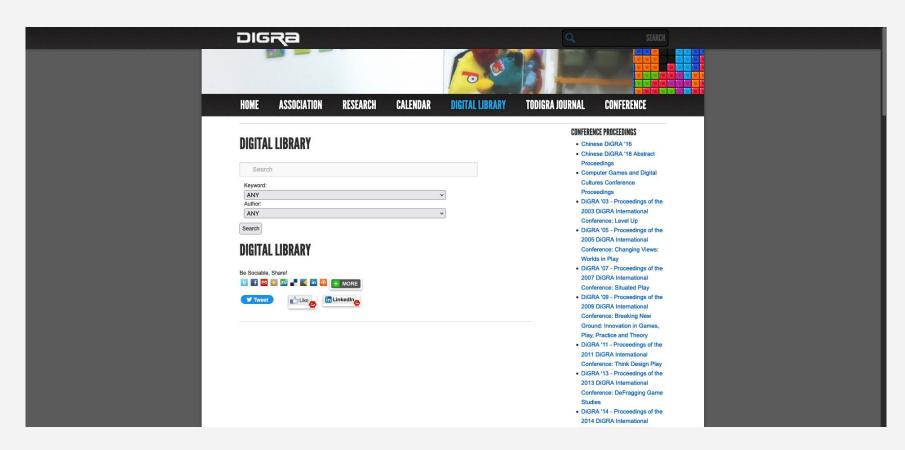
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DIGRA (Digital Games Research Association

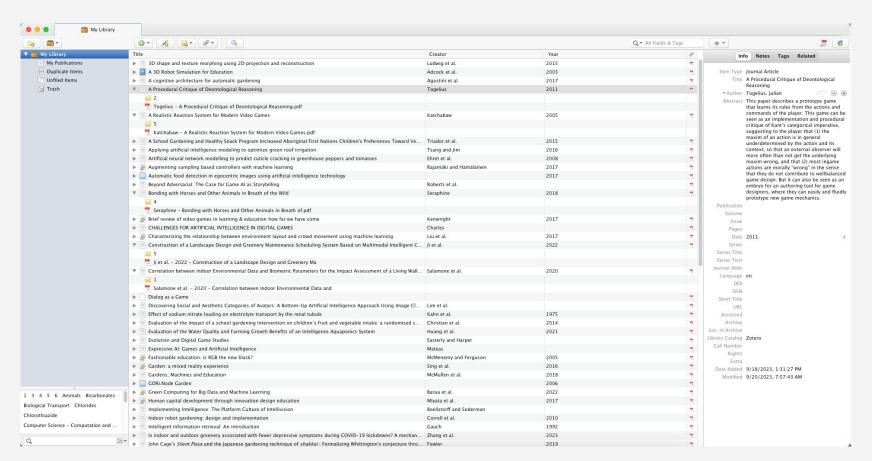


Table Position	Key	Item Type	Publication Year	Author	Title	Publication Title	ISBN	ISSN	DOI	Url
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	2 FP3GHWFN	conferencePape		Seun, Moon; Ge		i i	978-1-4503-7785-0		10.1145/100611	
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ı	4 3M7A45Q2	journalArticle	2015	Triador, Lucila; F	A School Gardening and Healthy Snack Program Increased Aboriginal First Nations Children's Preferences Toward Vegetables and Fruit	Journal of Nutrit	ion Education and	14994046	10.1016/j.jneb.2	htt
	5 ZVJDIM72	journalArticle	2017	Agostini, Alejano	A cognitive architecture for automatic gardening	Computers and	Electronics in Agr		10.1016/j.compa	htt
	6 MAJ7VI8T	journalArticle	2021	Moerkens, R.; Ja	Simplified modelling enhances biocontrol decision making in tomato greenhouses for three important pest species	Journal of Pest	Science	1612-4758, 1612	10.1007/s10340	htt
	7 C8I9J7YZ	journalArticle	2020	Salamone, Fran	Correlation between Indoor Environmental Data and Biometric Parameters for the Impact Assessment of a Living Wall in a ZEB Lab	Sensors		1424-8220	10.3390/s20092	htt
	8 EFZW3IQR	journalArticle	2022	Ji, Mingfei; Lu, J	Construction of a Landscape Design and Greenery Maintenance Scheduling System Based on Multimodal Intelligent Computing and Deep Neural Networks	Computational I	ntelligence and N	1687-5273, 168	10.1155/2022/8	htt
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7	12 9V8MEALJ	journalArticle	1988	Schiin, Donald A	Designing: Rules, types and worlds	DESIGN STUDI	ES			
	13 MVLU4HF8	journalArticle	2003	Coyne, Richard	Mindless repetition: Learning from computer games	Design Studies		0142694X	10.1016/S0142	htt
1	14 9R9WXMKL	book	2006	Cross, Nigel	Designerly ways of knowing		978-1-84628-30	0-0 978-1-84628-	301-7	
9	15 FQGXJK94	journalArticle		Katchabaw, Mich	A Realistic Reaction System for Modern Video Games					
, r	16 7HU33S8W	journalArticle		Togelius, Julian	A Procedural Critique of Deontological Reasoning					
	17 I8AVWC5R	journalArticle		Ruffino, Dr Paok	Non-Human Gaming: Video Games for the Post-Anthropocene					
	18 5KIKMZAS	journalArticle		Seraphine, Fred	Bonding with Horses and Other Animals in Breath of the Wild					
	19 N2G9RKFH	journalArticle		Easterly, Dougla	Evolution and Digital Game Studies					
	20 JJ3YESNL	journalArticle		Giddings, Seth	Playing With Non-Humans: Digital Games as Techno-Cultural Form					
	21 7CC85UFK	journalArticle		Boellstorff, Tom;	Implementing Intelligence: The Platform Culture of Intellivision					
	22 RGLUFHEL	journalArticle		Charles, Darryl	CHALLENGES FOR ARTIFICIAL INTELLIGENCE IN DIGITAL GAMES					
1	23 JSQSFBHN	conferencePape	2021	Juul, Jesper	The Game of Video Game Objects: A Minimal Theory of when we see Pixels as Objects rather than Pictures	Extended Abstra	978-1-4503-835	6-1	10.1145/345033	htt
	24 YKWLWH6W	journalArticle		Mateas, Michael	Expressive Al: Games and Artificial Intelligence					
3	25 Y65WZZGS	journalArticle		Lim, Chong-U; L	Discovering Social and Aesthetic Categories of Avatars: A Bottom-Up Artificial Intelligence Approach Using Image Clustering					
:	26 NV42BNVX	preprint	2023	Merino, Timothy	The Five-Dollar Model: Generating Game Maps and Sprites from Sentence Embeddings					htt
	27 CL82JLAP	journalArticle		Roberts, David L	Beyond Adversarial: The Case for Game Al as Storytelling					
	28 DZP9FG6D	journalArticle		Graham, Ross; f	Realistic Agent Movement in Dynamic Game Environments					
	29 5BGQC44N	journalArticle		Summerville, Ad	Super Mario as a String: Platformer Level Generation Via LSTMs					
3	30 QUR8XWET	journalArticle	2009	Hung, Aaron Ch	The Order of Play: Seeing, Teaching, and Learning Meaning in Video Games					

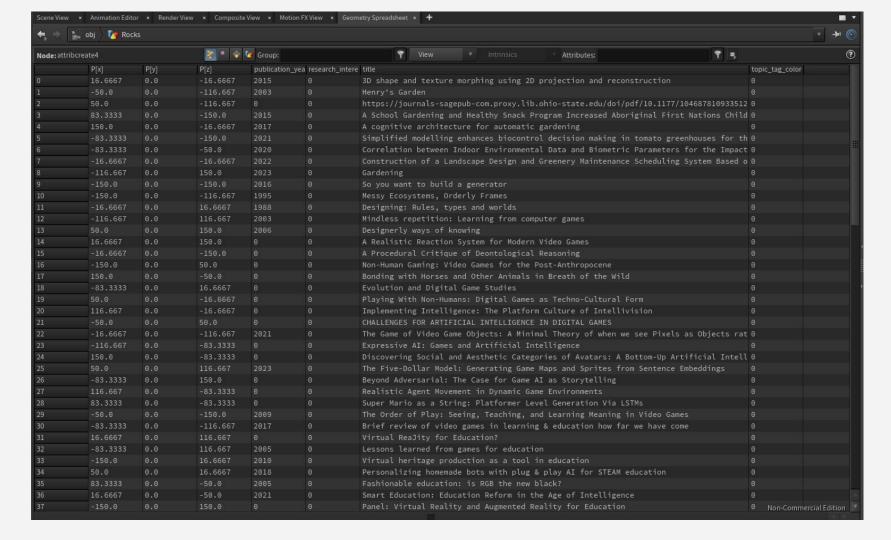
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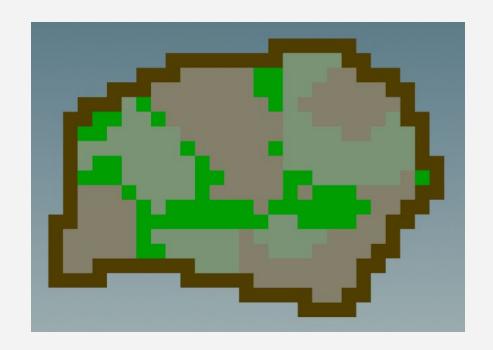
2017 Kenwright, Ben Brief review of video games in learning & education how far we have come

conferencePape

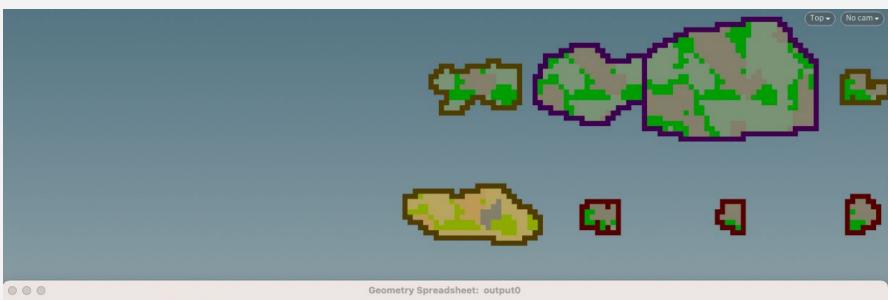
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Publication year = noise (grain) of the 'lichen' Research interest = size of rock Title = title of publication Topic tag = color of rock outline







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