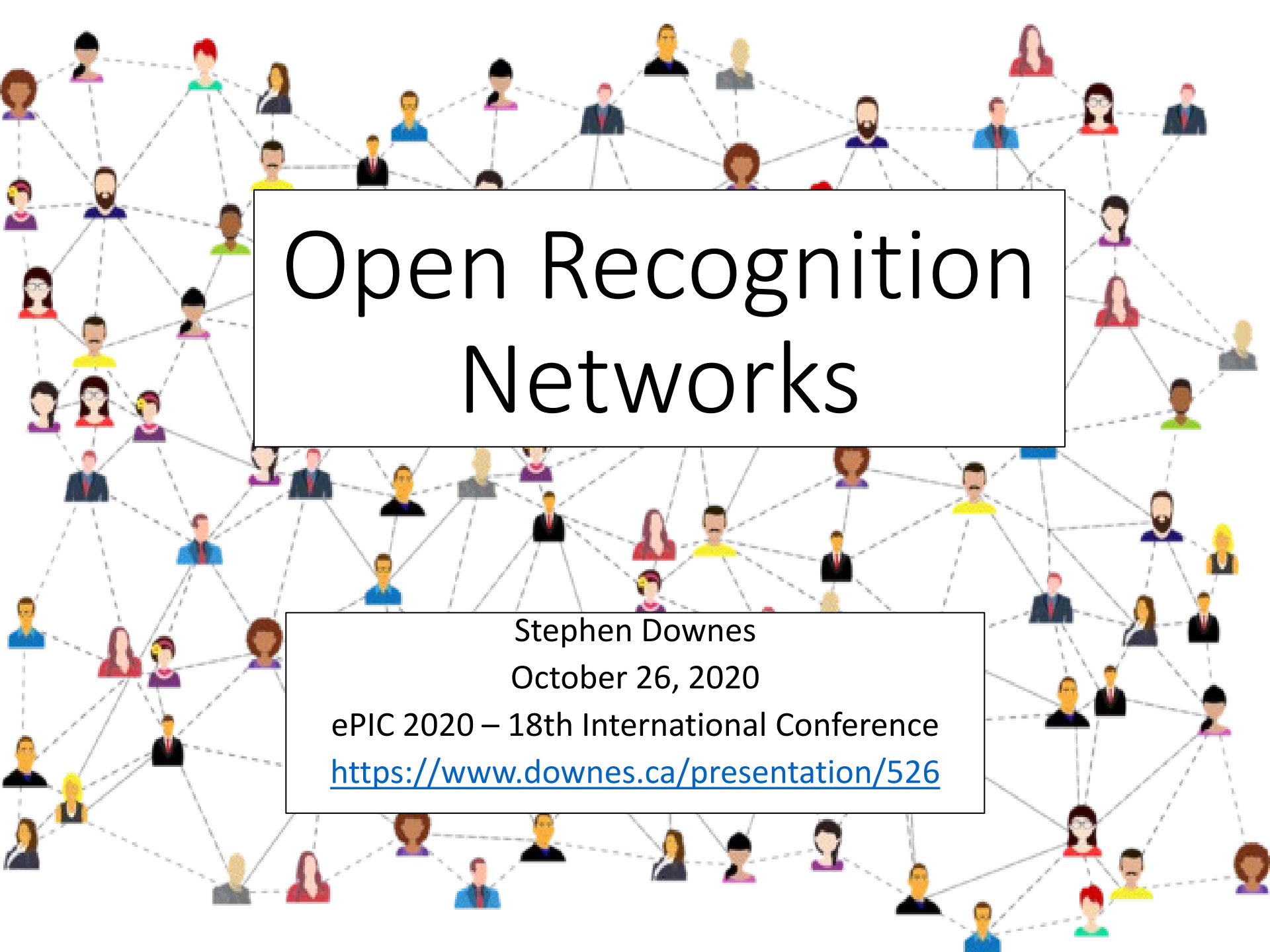


Open Recognition Networks

Stephen Downes

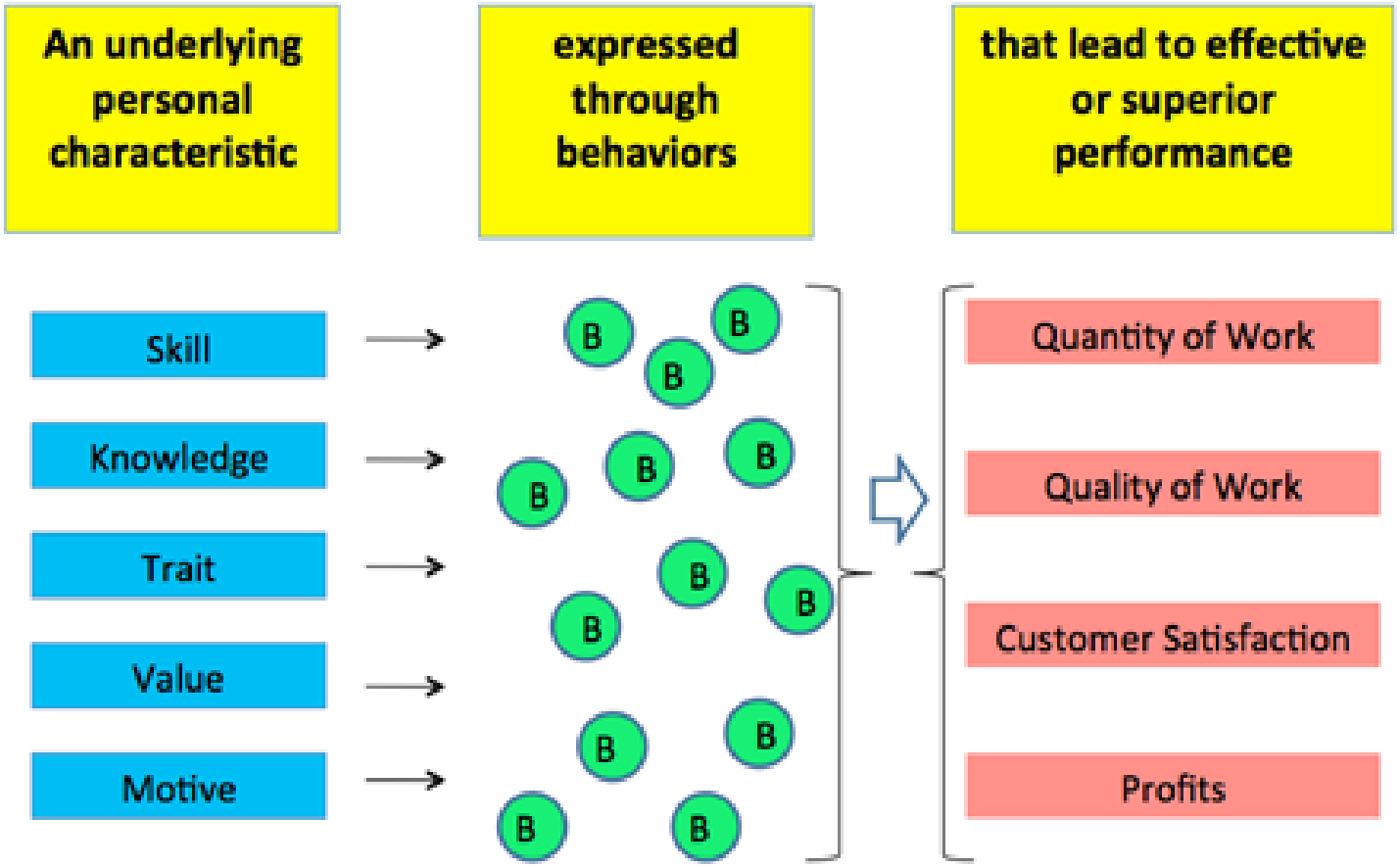
October 26, 2020

ePIC 2020 – 18th International Conference

https://www.downes.ca/presentation/526

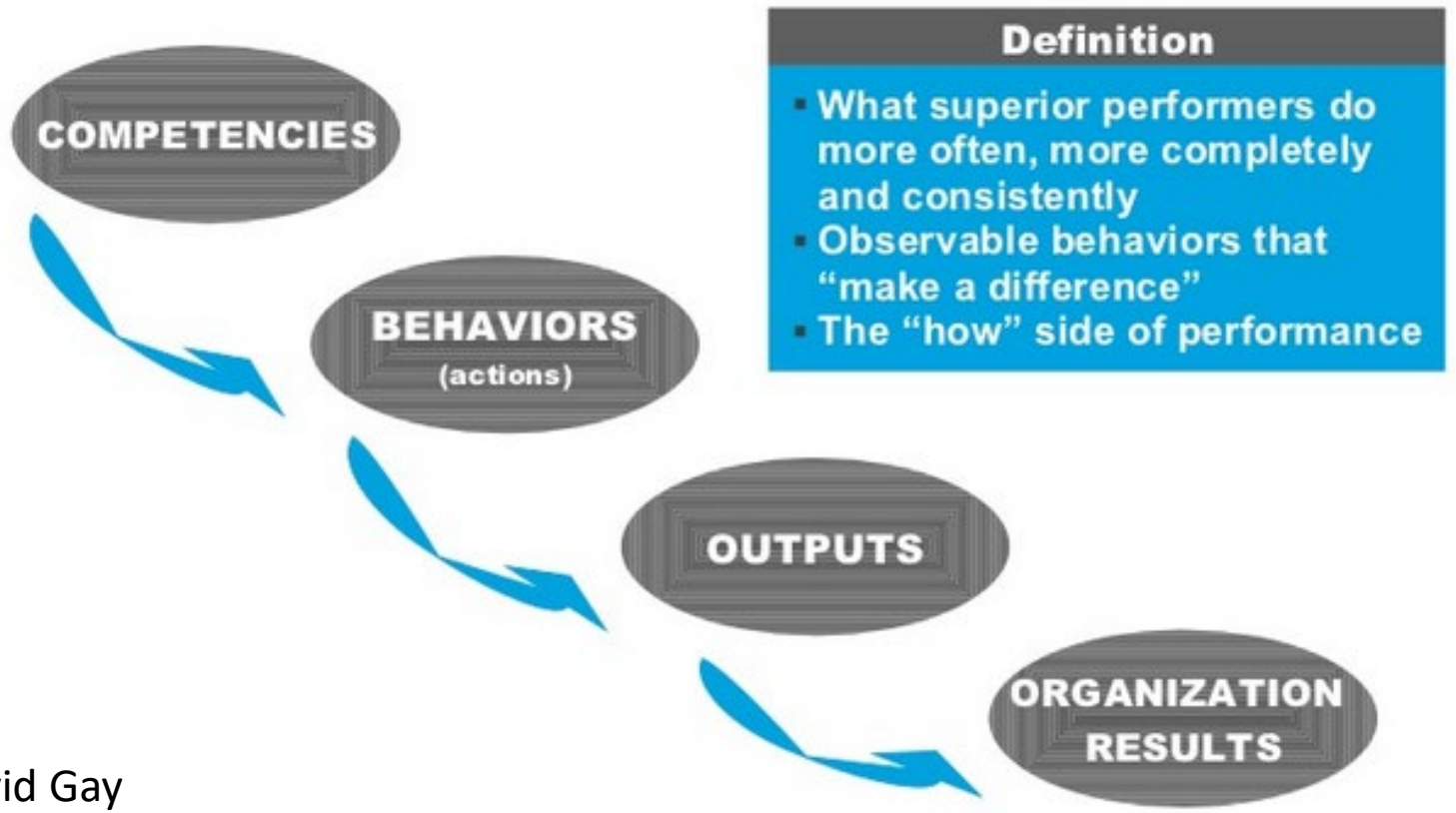
Competencies and Stackable Credentials

What are Competencies?



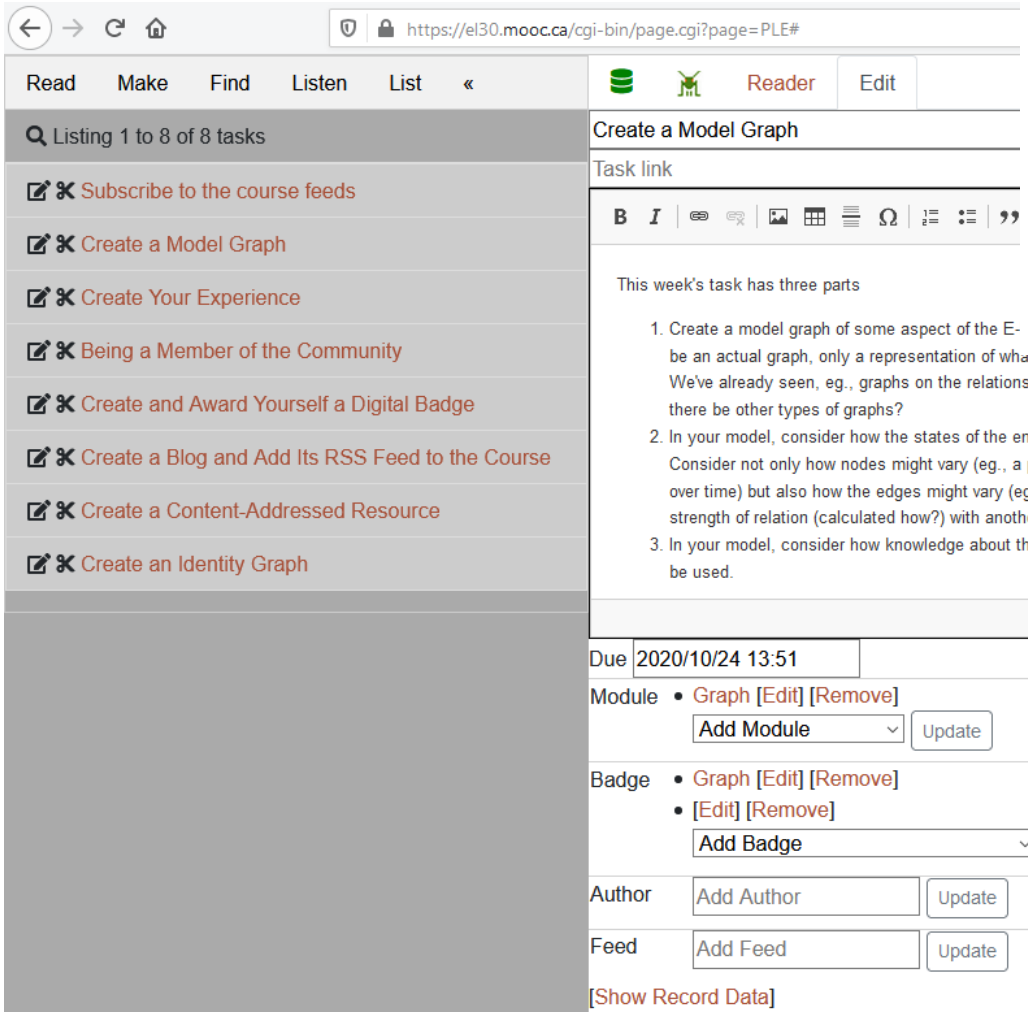
http://cornwellinc.com/tools/competency/description.html

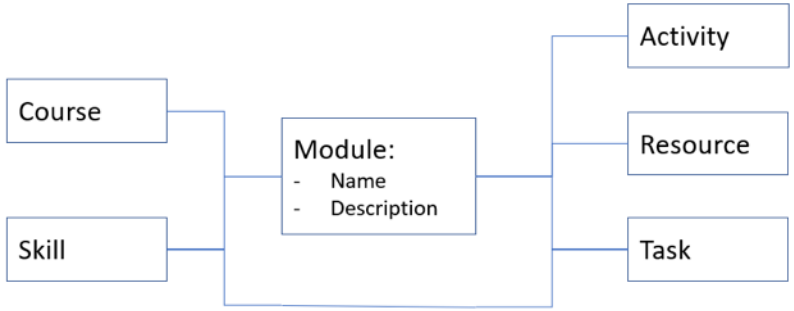
Evaluating Competencies?



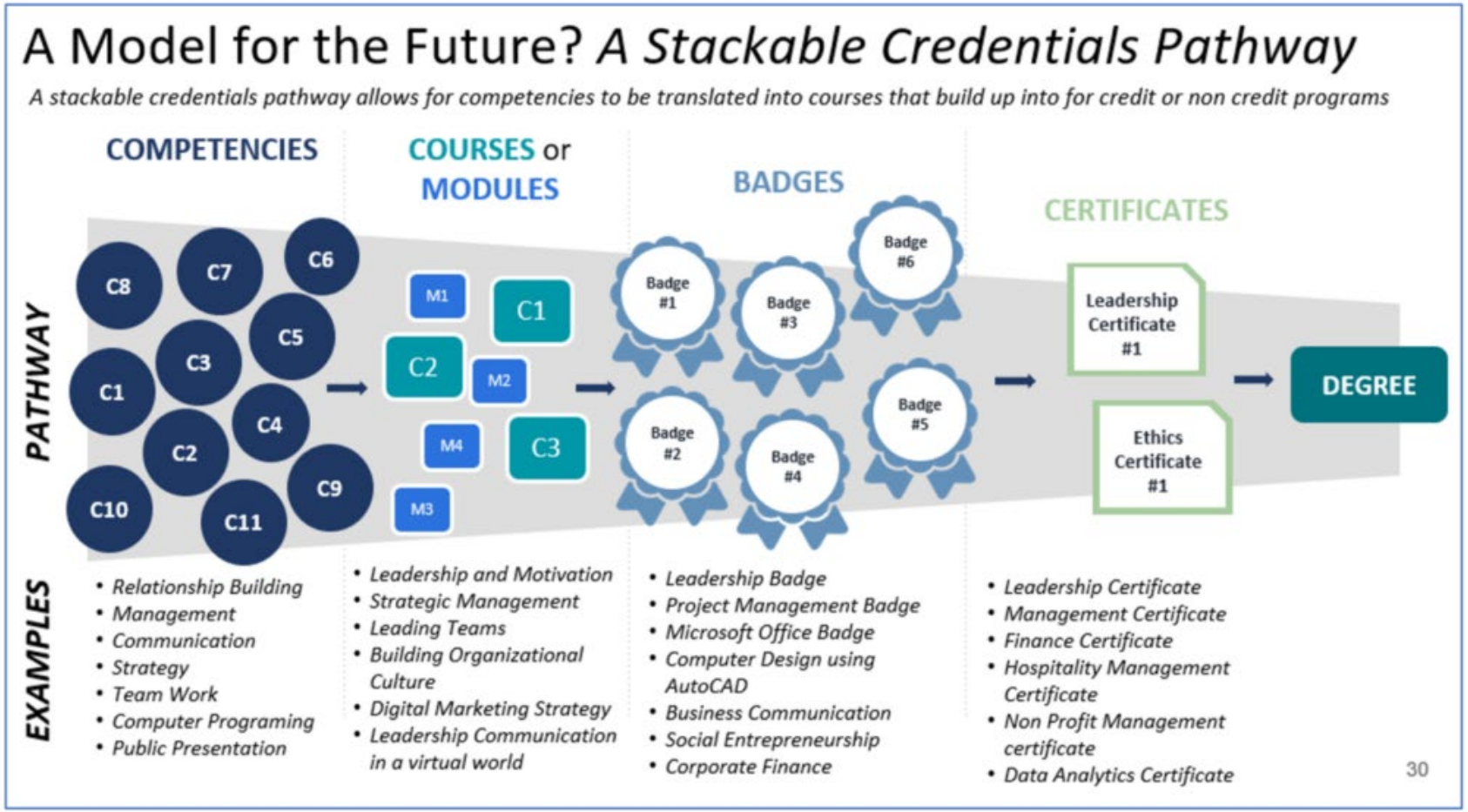
David Gay
https://www.slideshare.net/davidgay/overview-of-competencies-benefits-and-uses-of-a-competencybased-system

Skills and Tasks





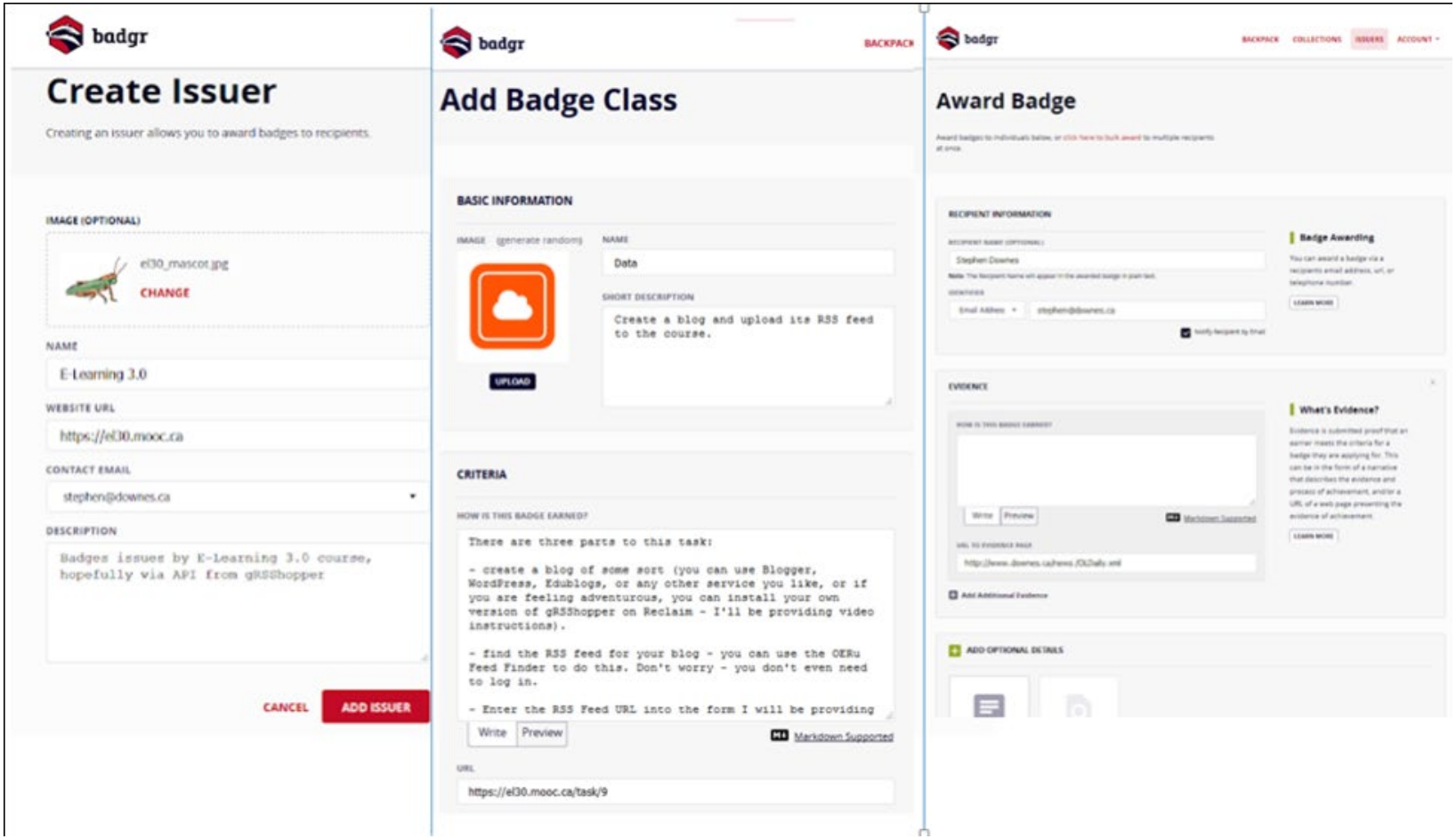
Stackable Credentials



Jim Fong, UPCEA, "Faster Forward to a New Economy and Implications for Higher Education," Presentation. August 6, 2020.

Badges and Blockchain

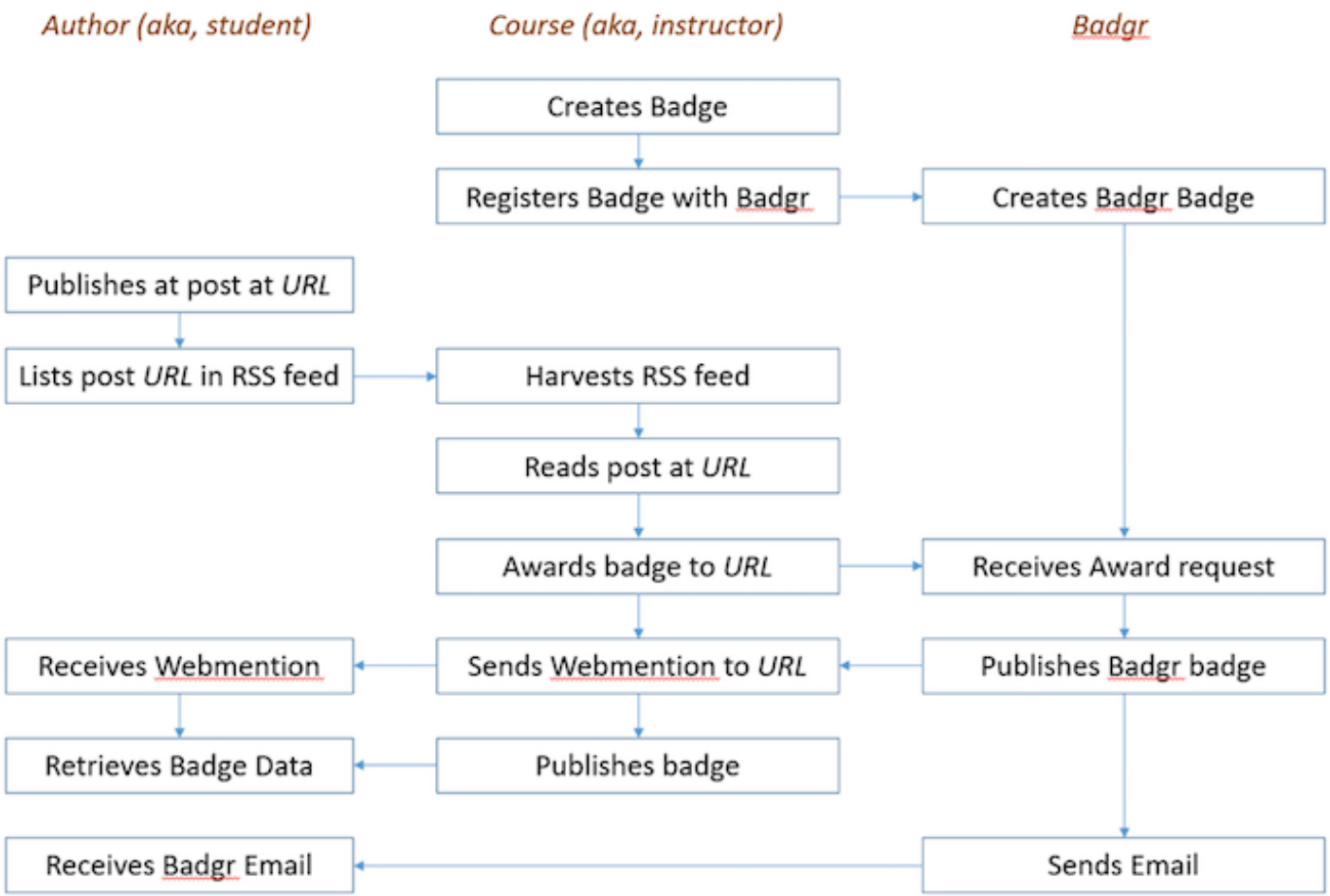
Badge Infrastructure



https://info.badgr.com/

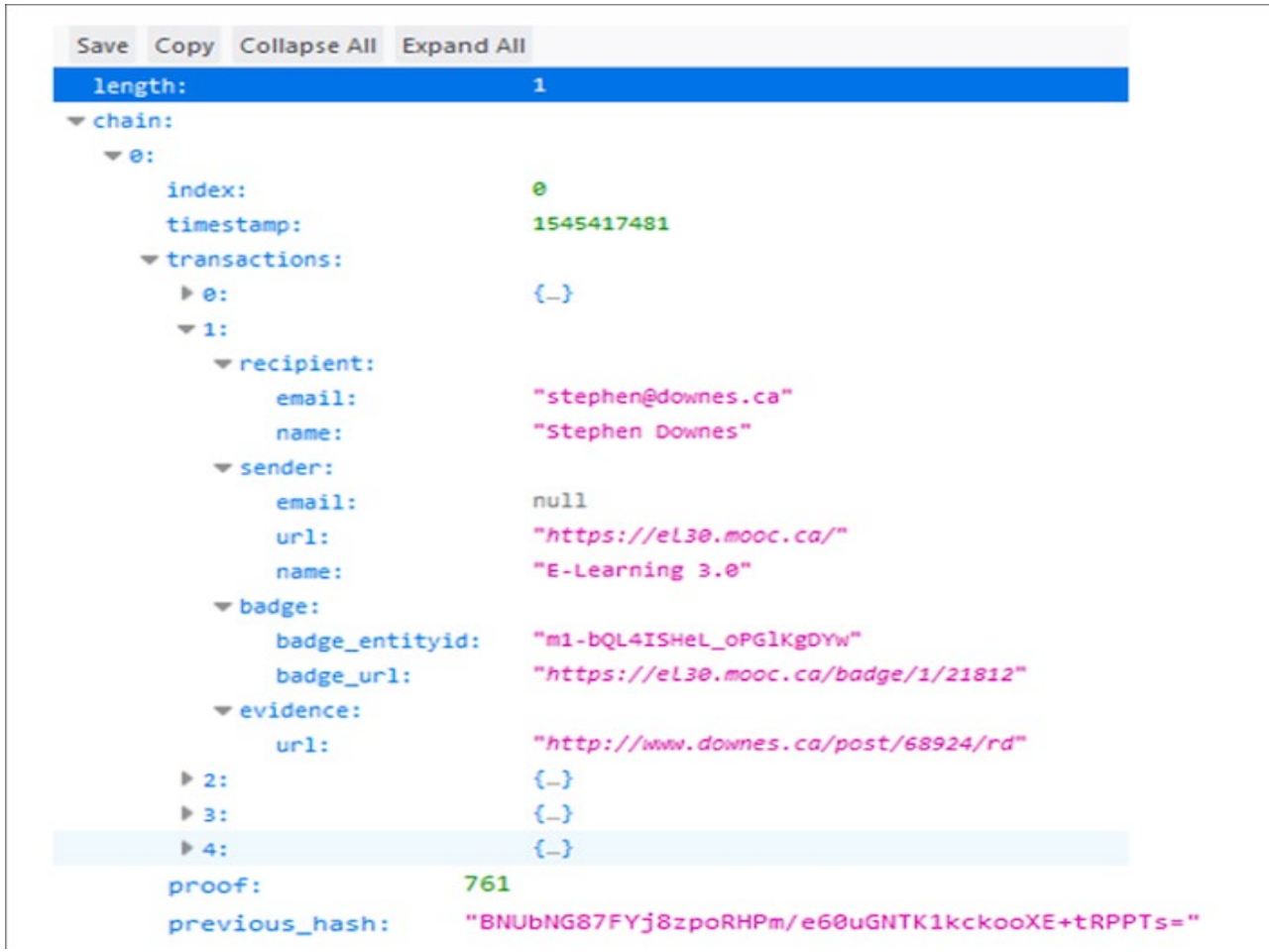
https://badge.wiki/wiki/Badge_platforms

Badge Workflow



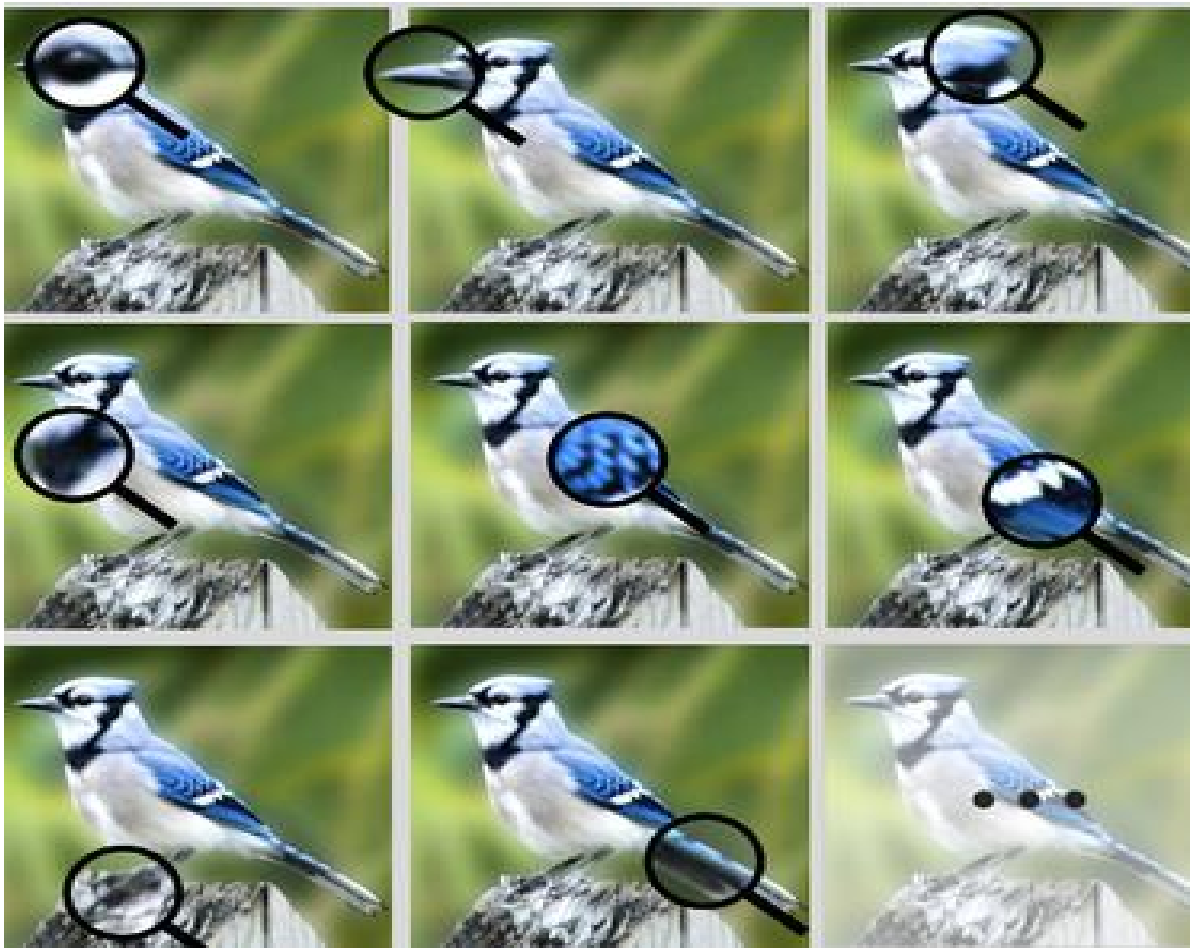
https://jl4d.org/index.php/ejl4d/article/view/348/436

Recording on Blockchain



https://github.com/Downes/blockchain

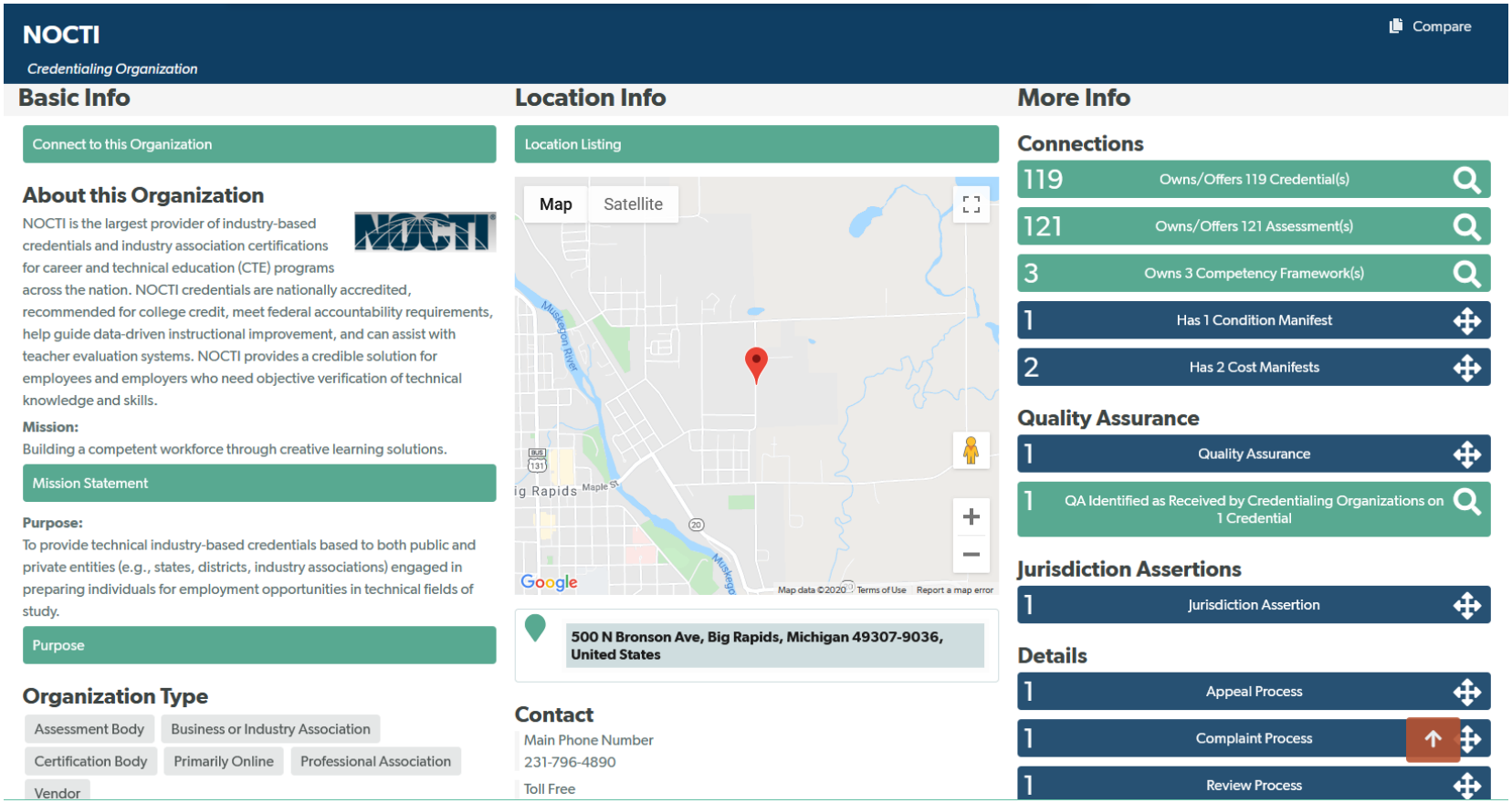
A Proliferation of Certifications



How Many is Enough?

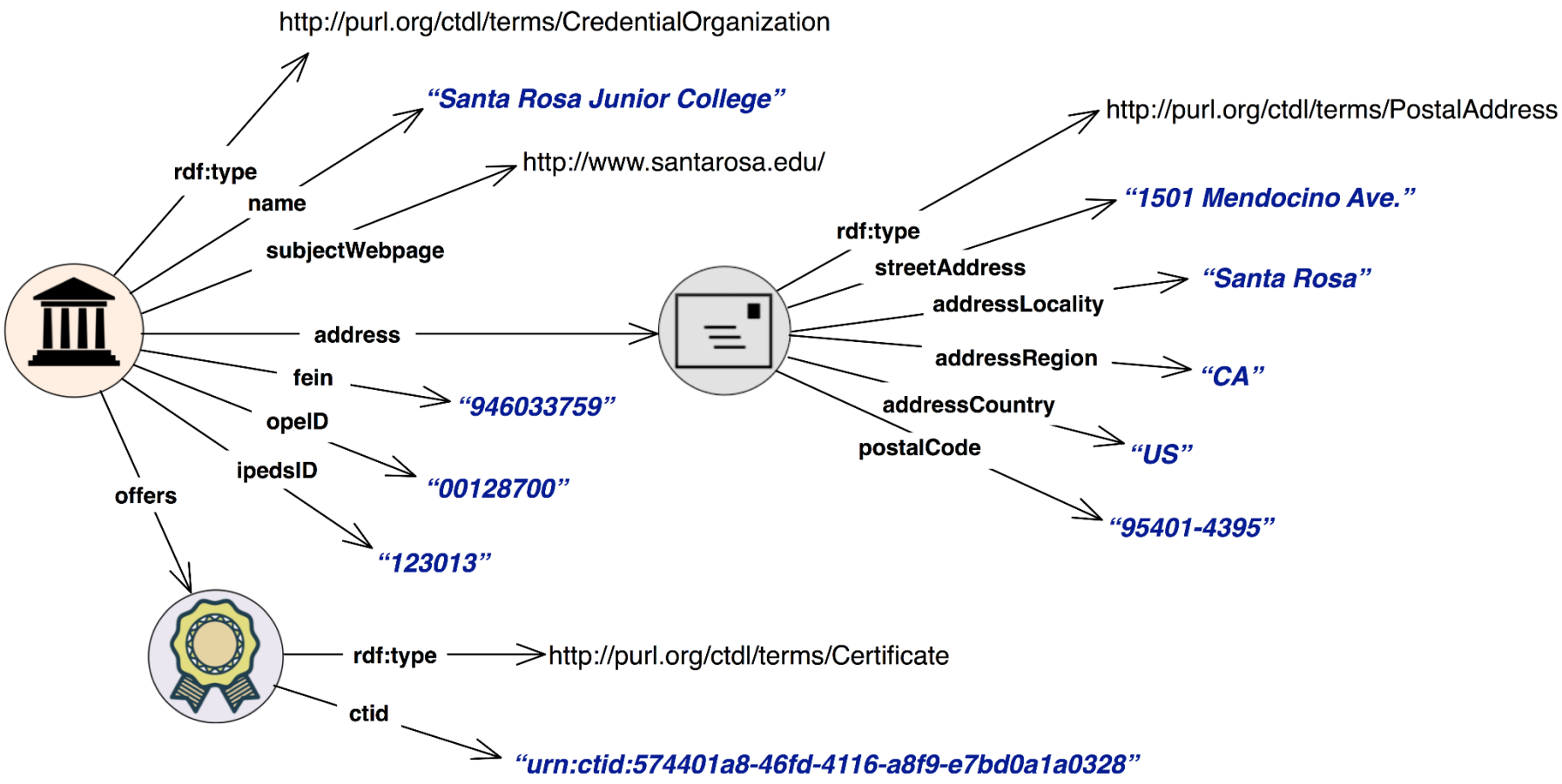
https://asiatimes.com/2020/03/russia-puts-a-lid-on-military-medals/

Credential Organizations



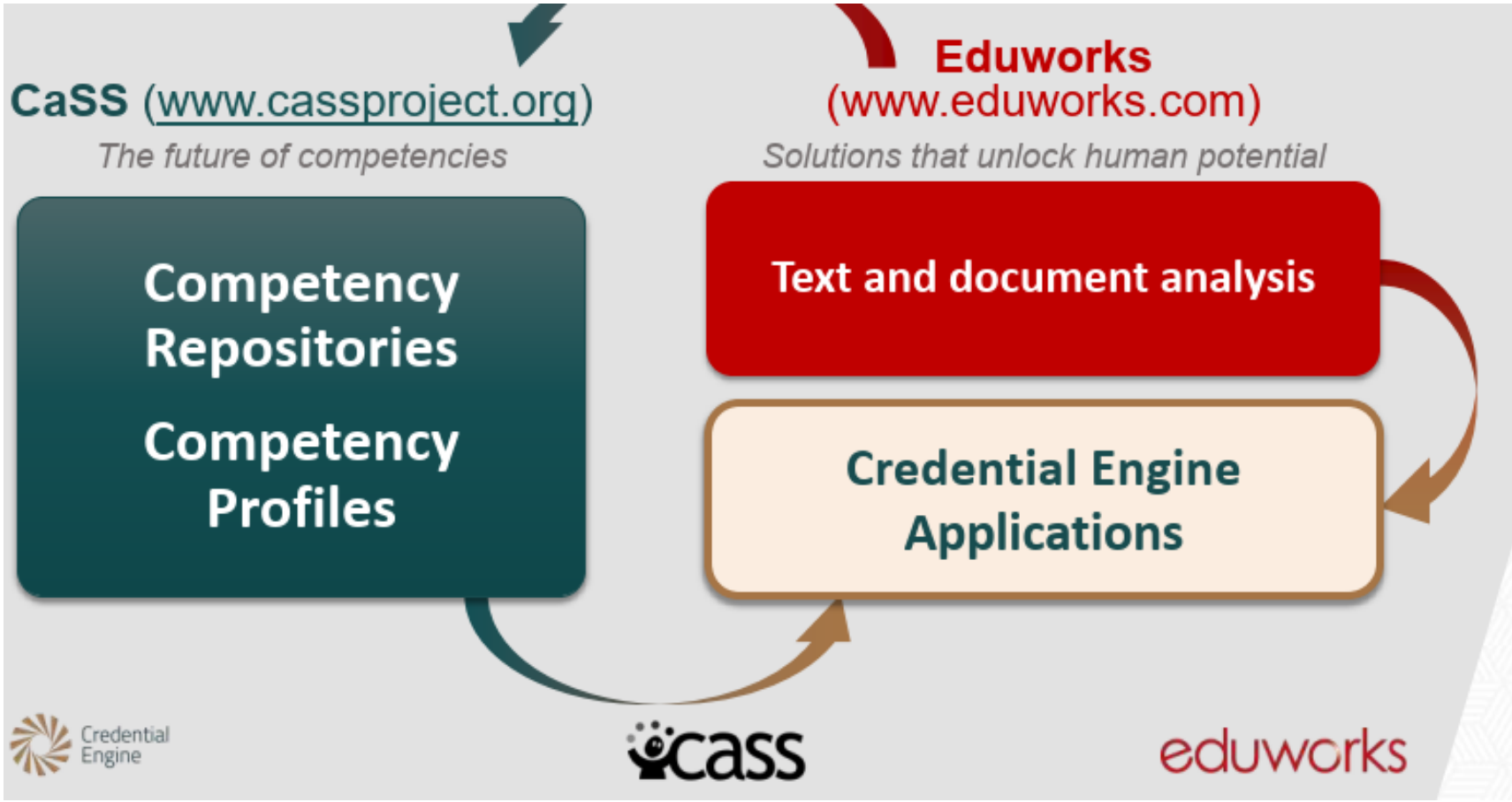
https://credentialfinder.org/organization/1

Credential Transparency



https://credreg.net/ctdl/handbook

Credential Applications



https://www.slideshare.net/CredentialEngine/cass-application

How do we evaluate certifications

Credential Evaluation Services

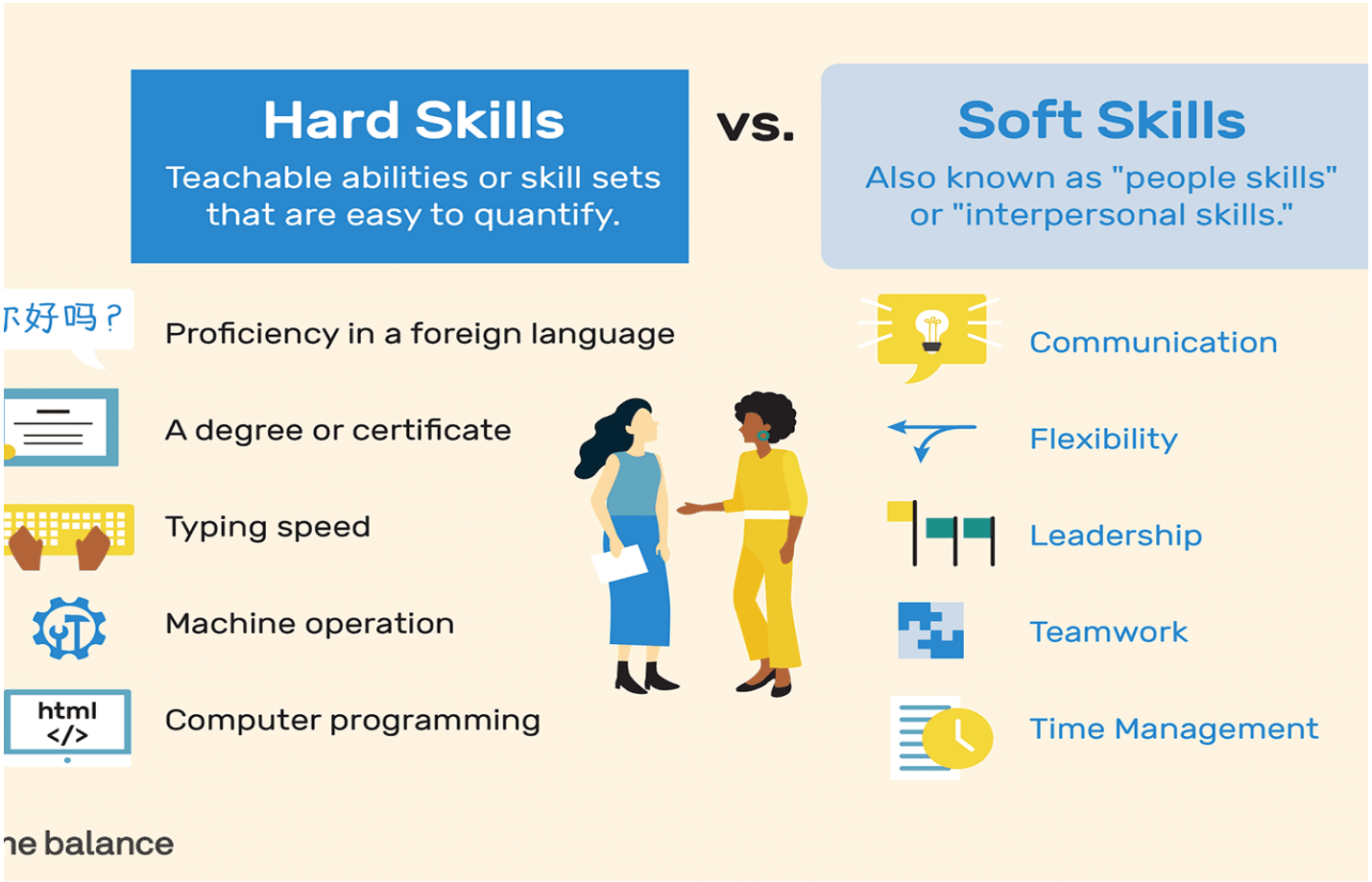
https://www.cicic.ca/1566/overview.canada

This is Microsoft grifting, no?

https://github.githubassets.com/images/modules/site/downloads/certifications/GitHub.Certified.Practitioner.Exam.skills-outline.pdf

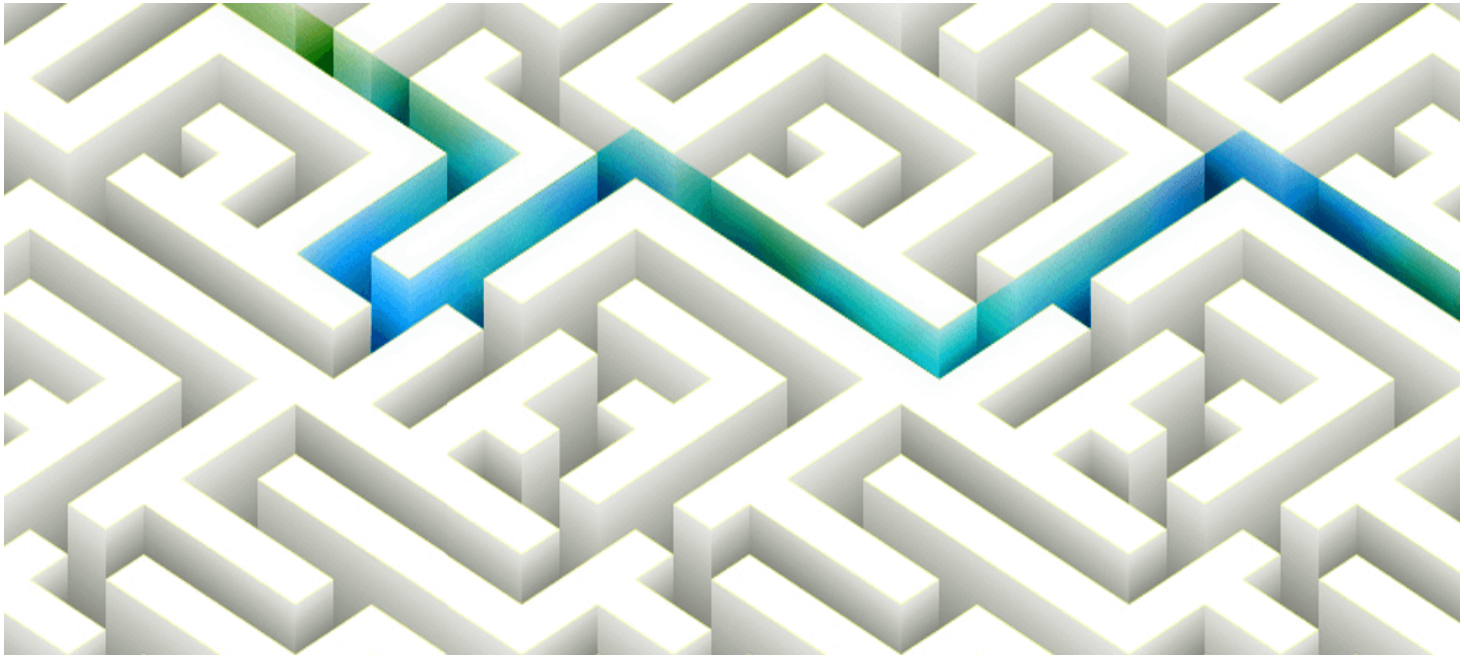
https://m.tzyl.nl/@ton/105080168060564907

In Whose Interest?



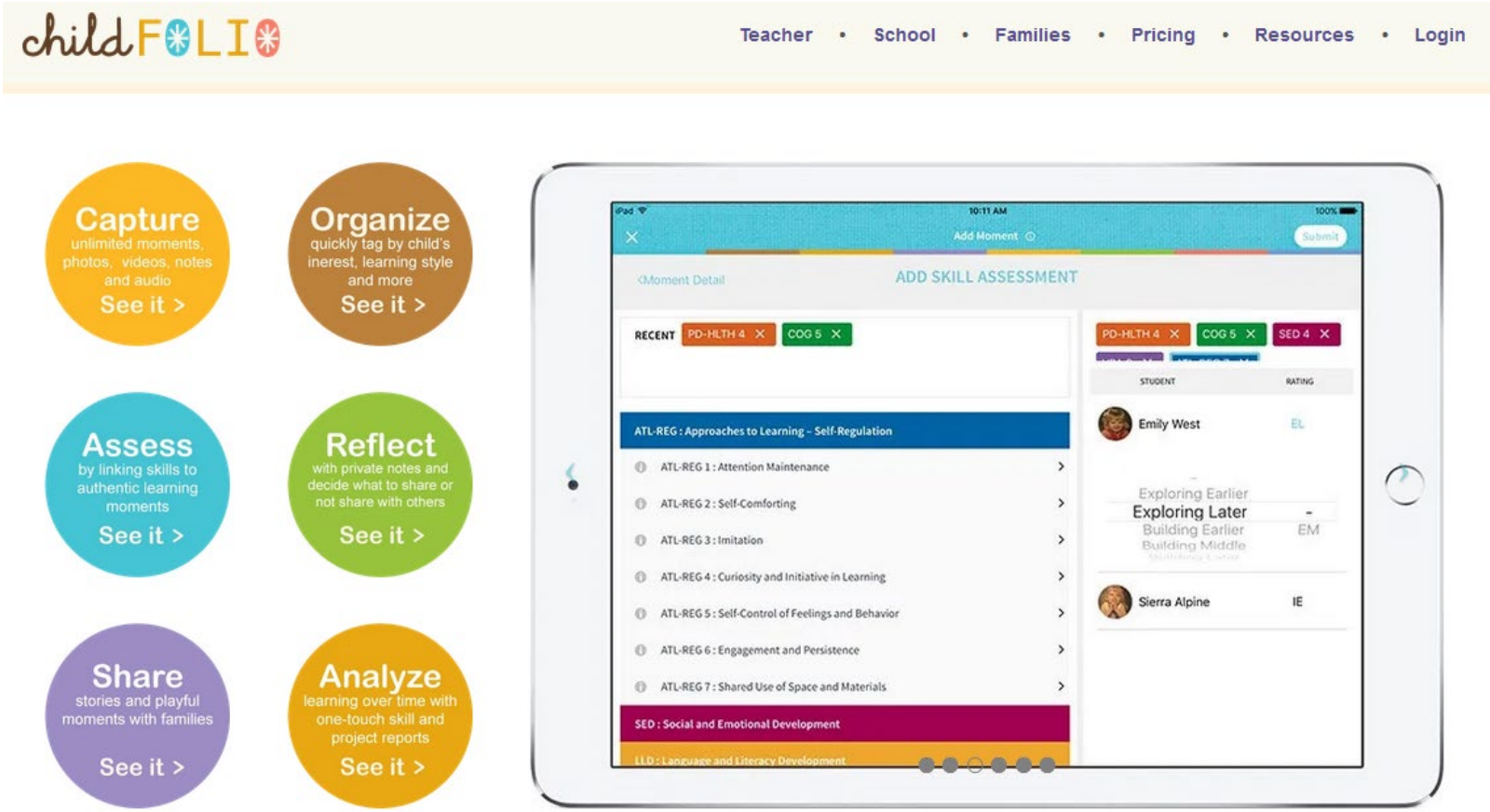
https://www.thebalancecareers.com/hard-skills-vs-soft-skills-2063780

Credential Transfer



https://www.academyone.com/higher-ed-software-and-technology-solutions/will-my-credits-transfer

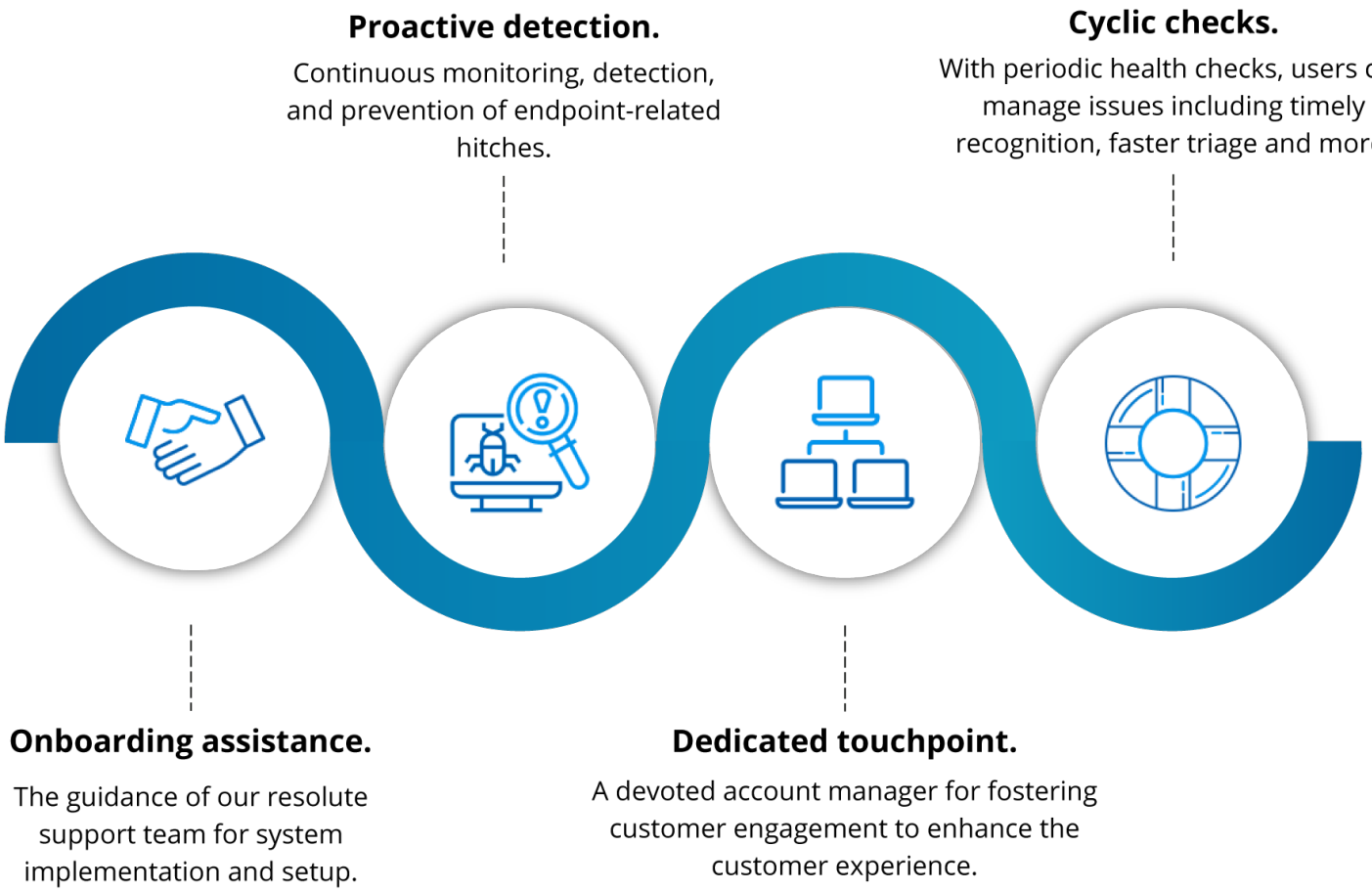
Childfolio



https://www.childfolio.com/

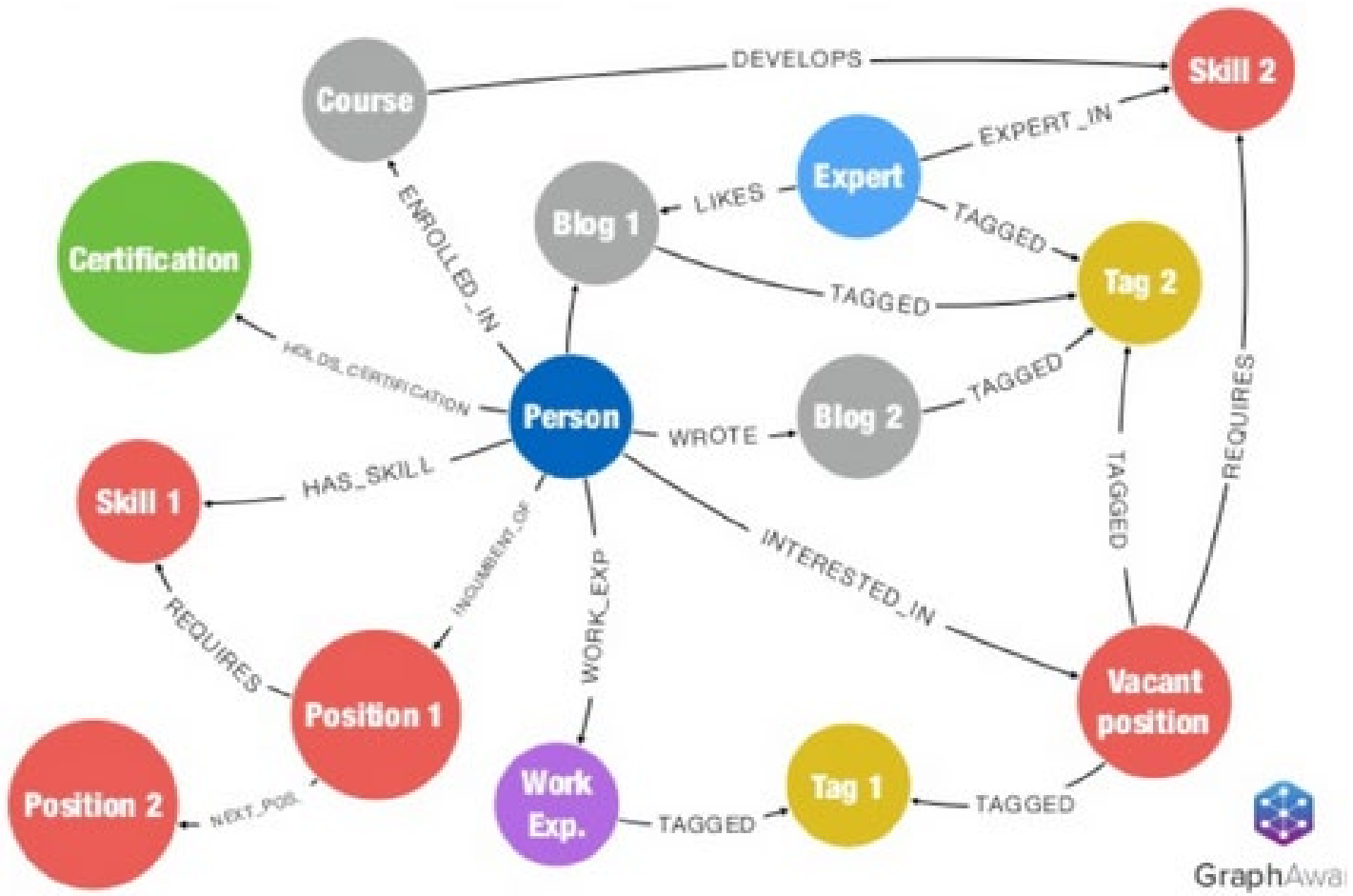
Forms of Recognition

Onboarding



https://www.manageengine.com/products/desktop-central/customer-onboarding.html

Career Management



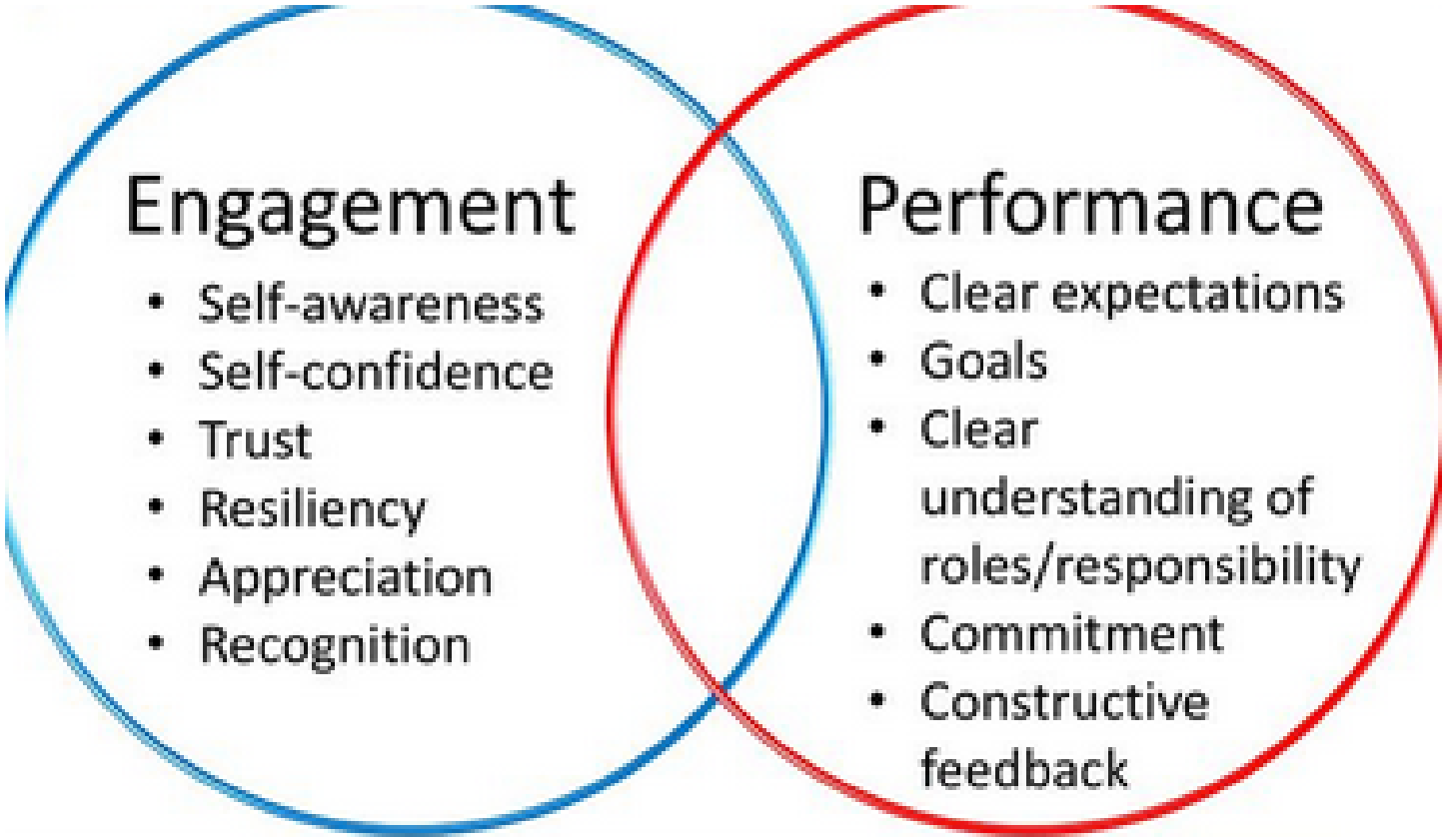
https://neo4j.com/blog/neo4j-critical-aspect-human-capital-management-hcm/

Diversity and Inclusion

Wolfberg, et. al. Recognizing diversity at multiple levels - https://www.sciencedirect.com/science/article/pii/S0885200699800325

Image: Deloitte - https://www2.deloitte.com/us/en/insights/topics/talent/six-signature-traits-of-inclusive-leadership.html

Performance and Goals



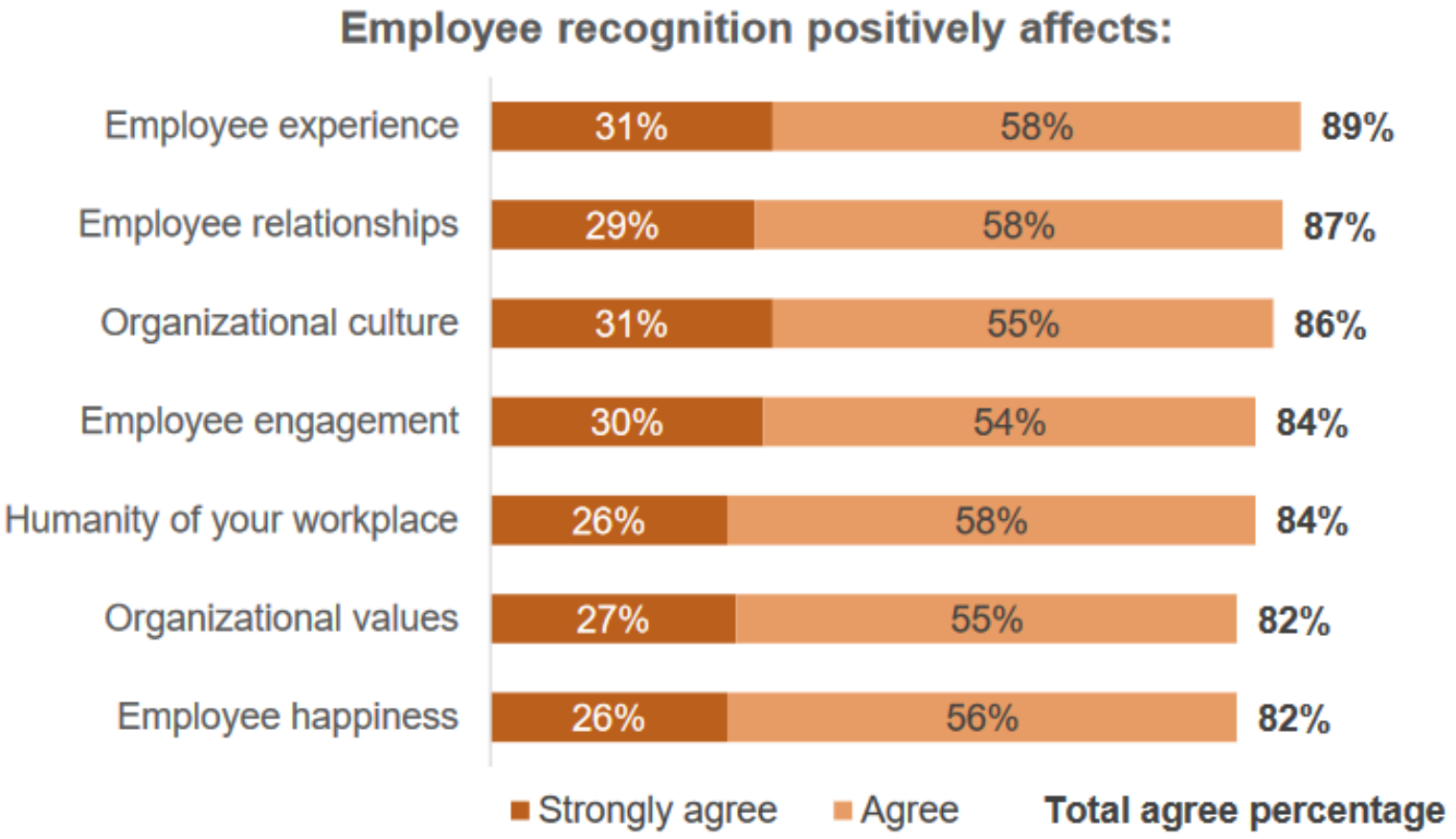
https://slideplayer.com/slide/13572624/

Peer Recognition

Doing it Wrong: Klout

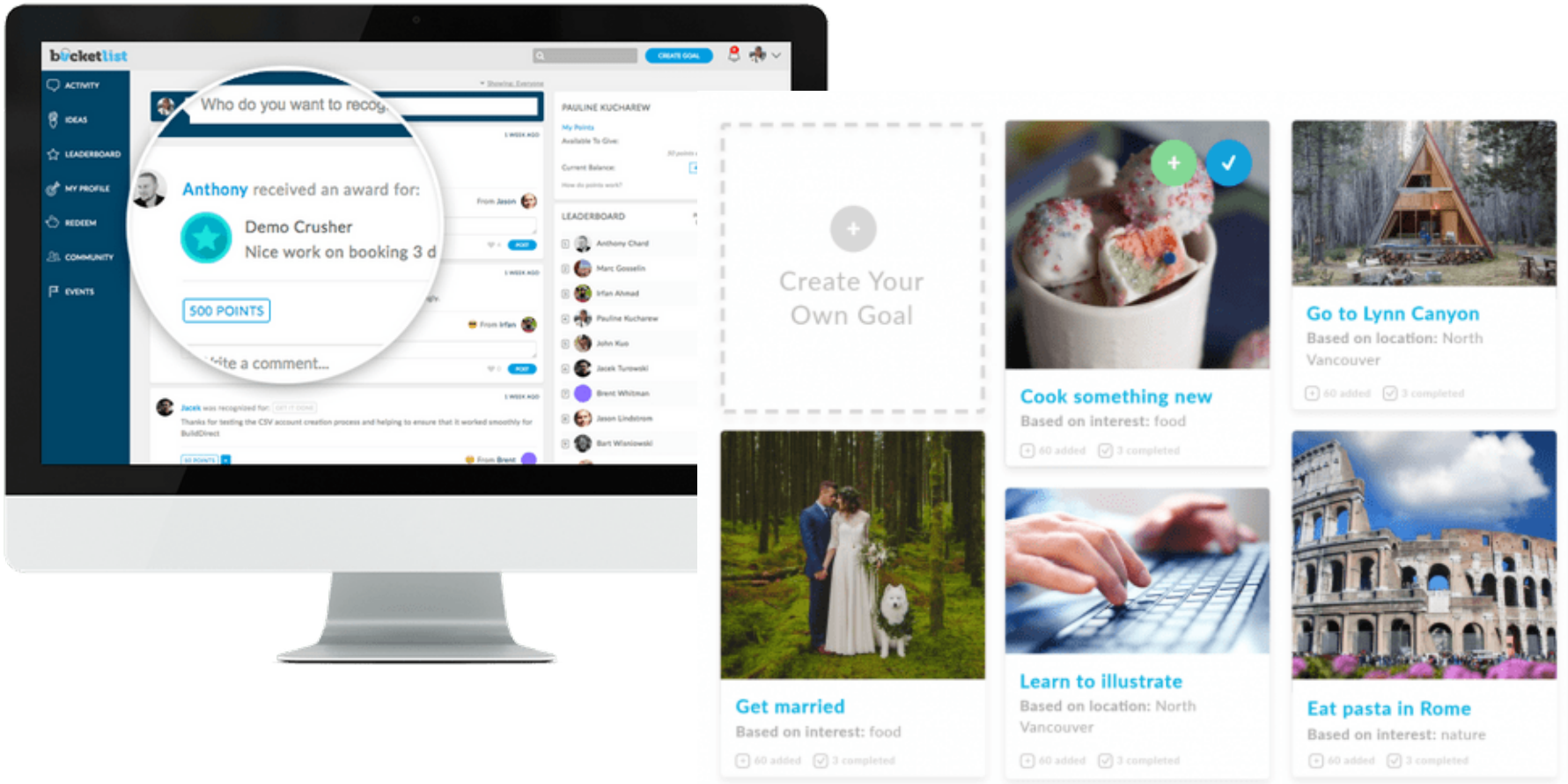
https://www.theverge.com/tldr/2018/5/10/17340714/klout-lithium-social-media-reputation-tool-clout

Recognition in the Workplace



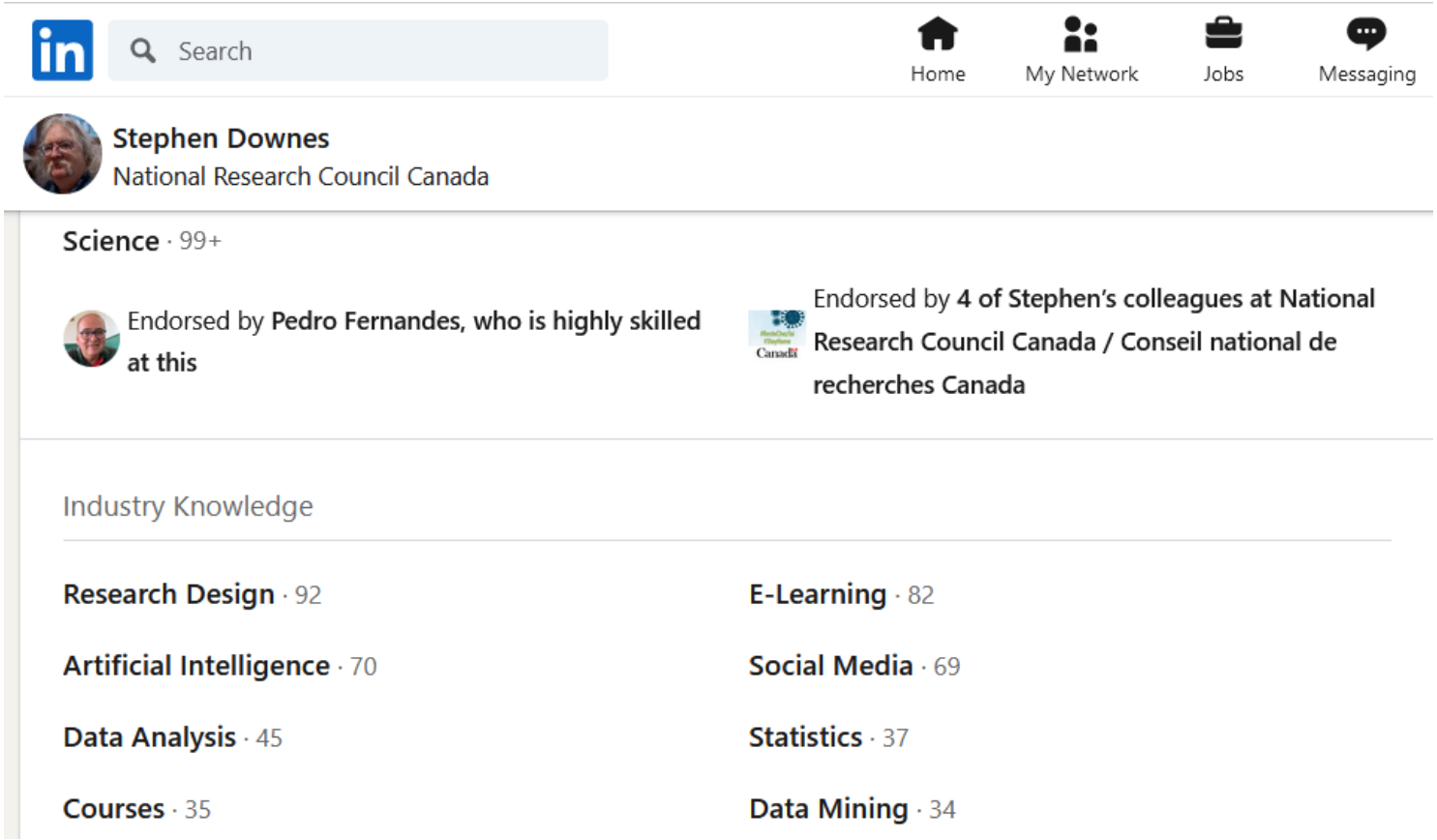
https://www.shrm.org/hr-today/trends-and-forecasting/research-and-surveys/Documents/SHRM-GloboforceEmployeeRecognition%202018.pdf

Employee Recognition Tech



http://unbouncepages.com/bucketlist-employee-recognition-software/

Social Media Recognition

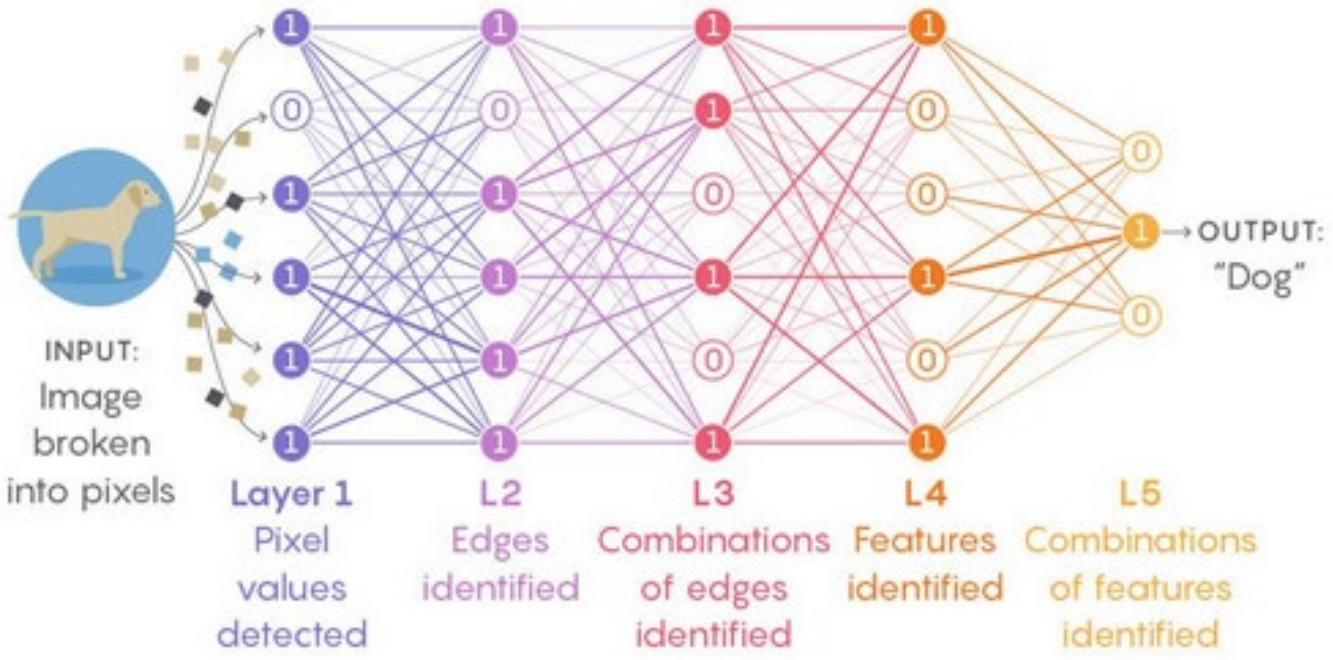


https://www.linkedin.com/in/stdownes/

Knowing as Recognition

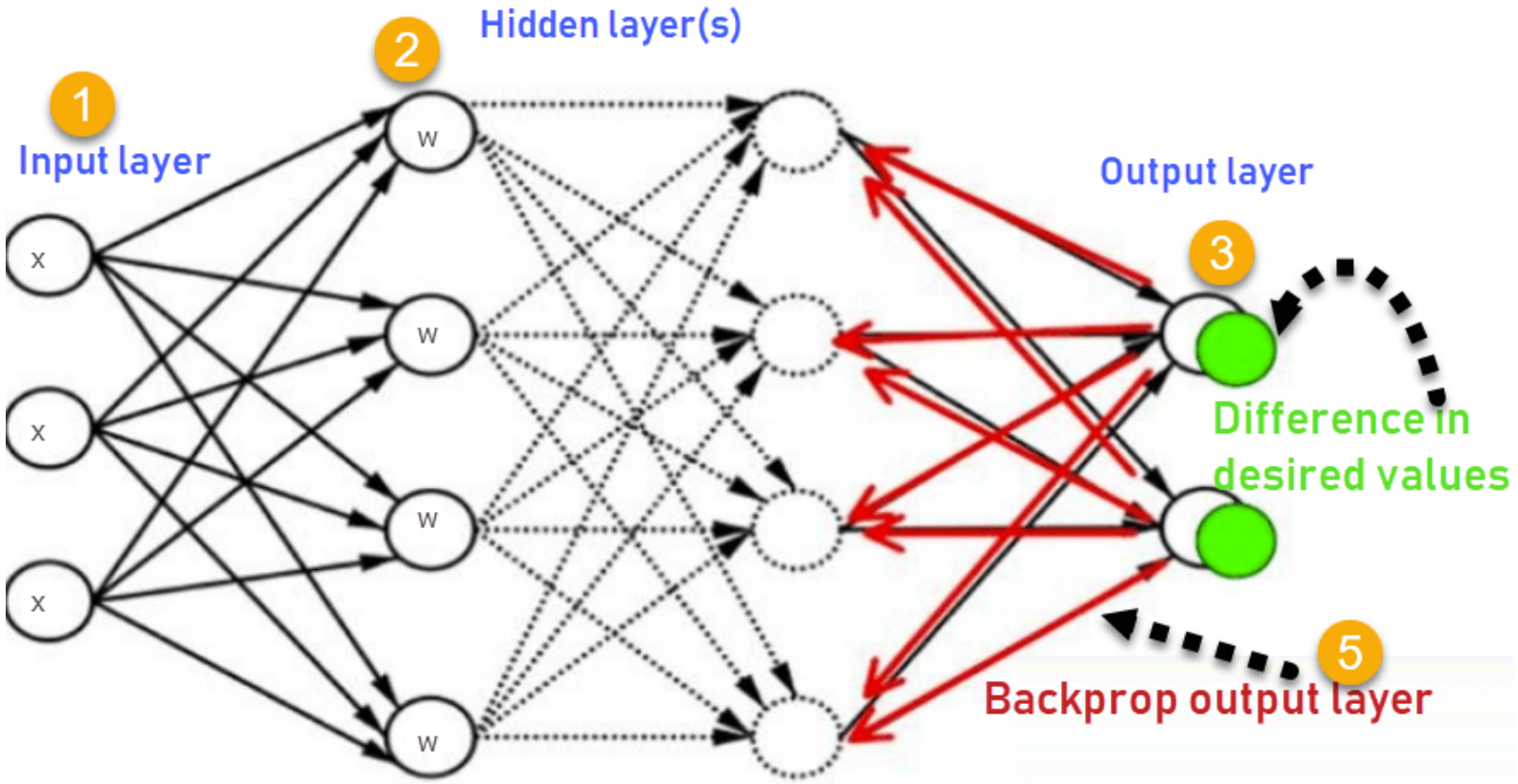
Seeing

Recognition



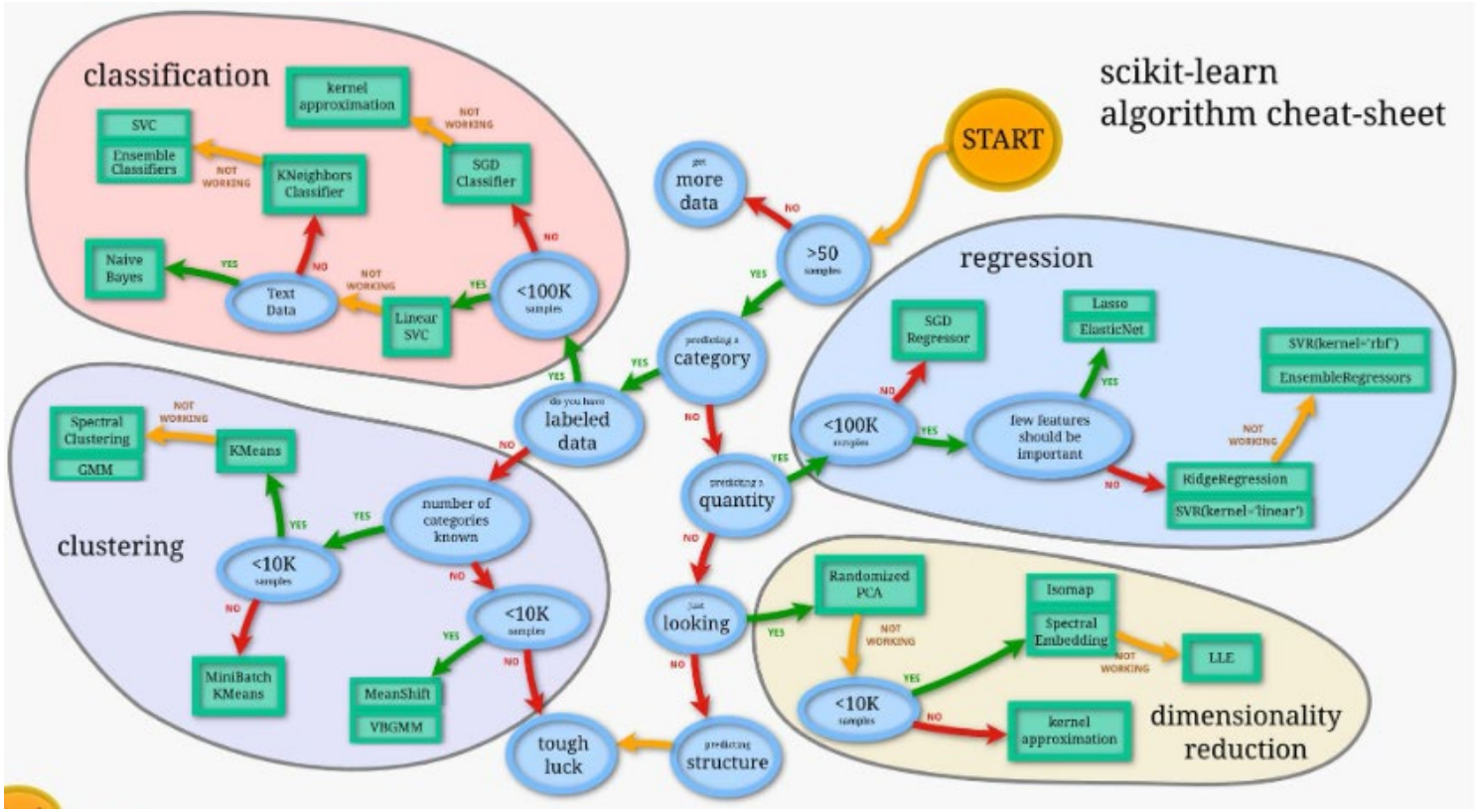
Steve Easterbrook - https://scentroid.com/wp-content/uploads/2020/02/Steve-Easterbrook-Machine-Learning-and-Atmospheric-Modelling-A-Prognostic-View.pdf

Learning



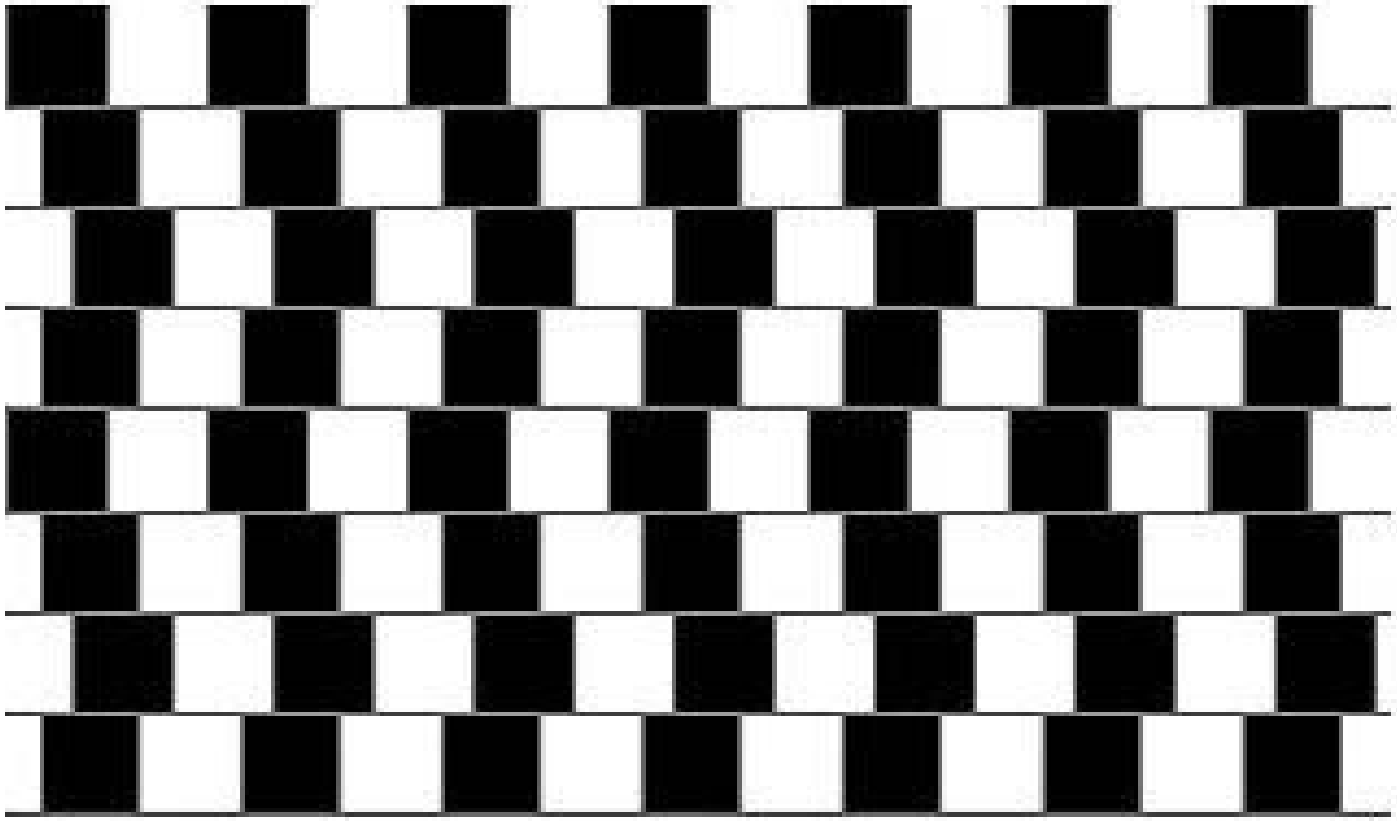
https://www.guru99.com/backpropogation-neural-network.html

Types of Recognition



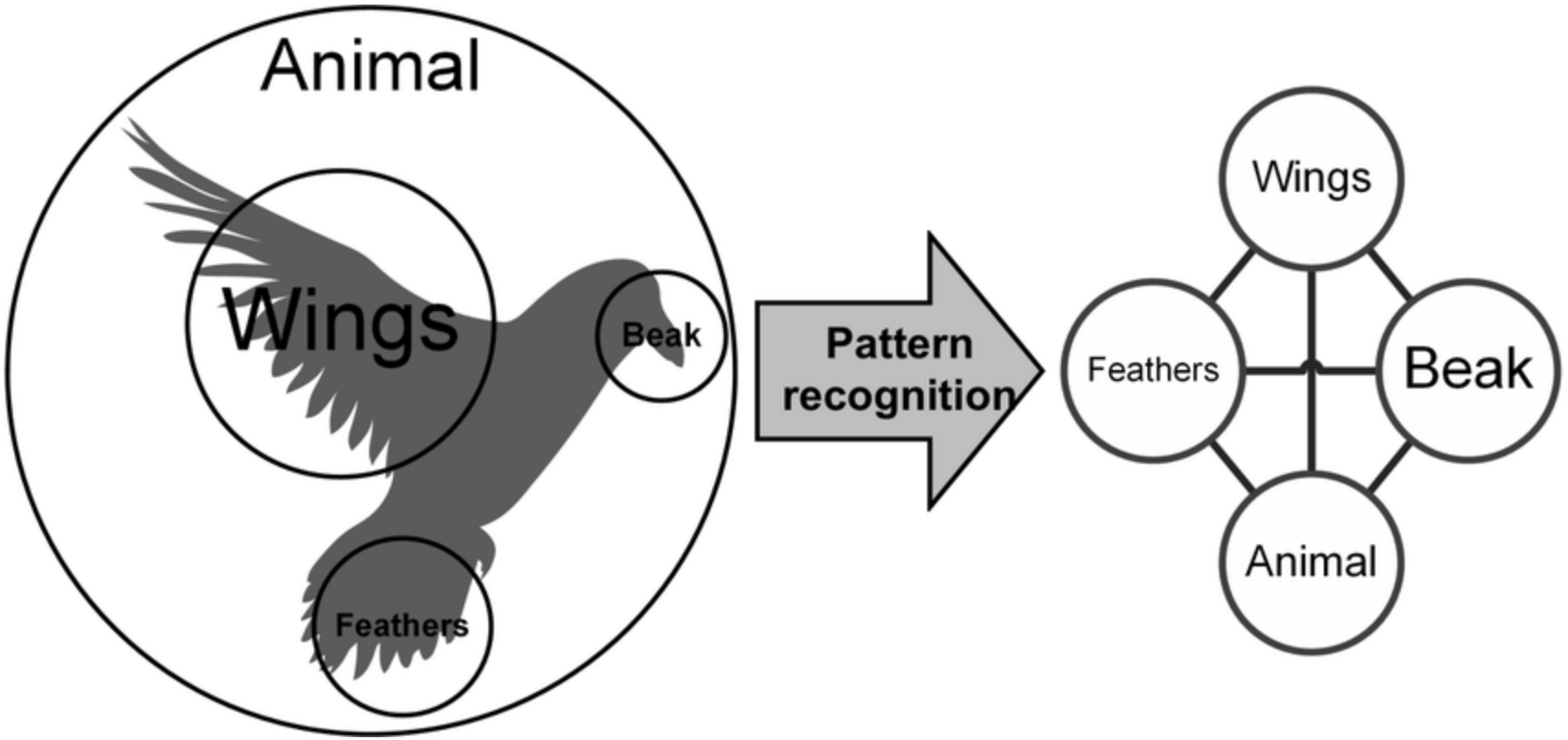
https://www.nrel.gov/energyexecs/assets/pdfs/artificial-intellegence-and-machine-learning.pdf

What We See



http://www.shodor.org/interactivate1.0/discussions/tessillusion.html

AI-based evaluation

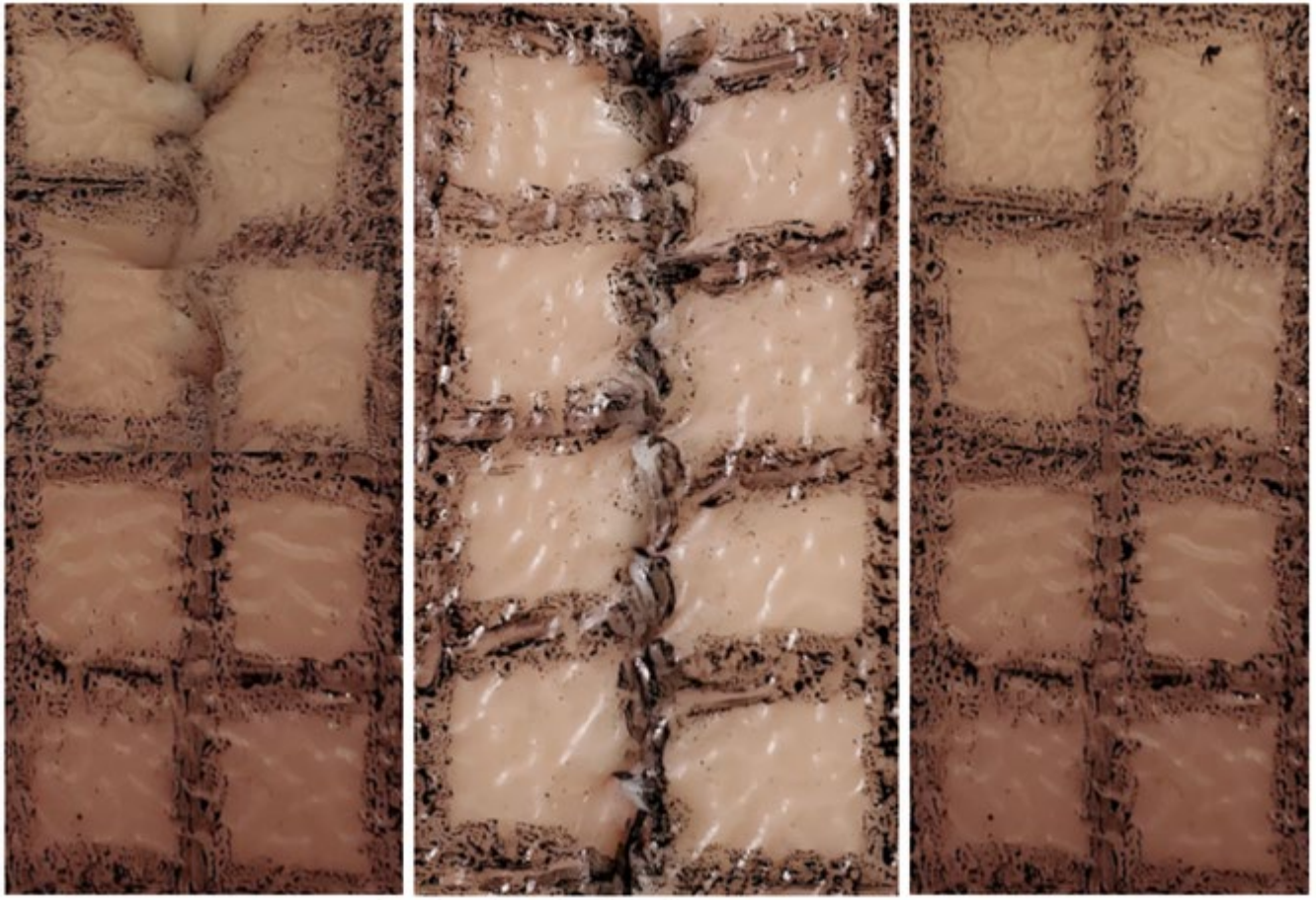


Ballet

	Level 1			Level 2			Level 3		
Number of sensors (number of possible sensor combinations)	**Accuracy score mean (range)**	**Best**	**Worst**	**Accuracy score mean (range)**	**Best**	**Worst**	**Accuracy score mean (range)**	**Best**	**Worst**
5 (6)	98.2% (98–98.5%)	L shin L thigh R shin R thigh Sacrum	L thigh L shin R thigh Sacrum Thoracic	81.8% (81.3–81.8%)	L shin L thigh R shin R thigh Sacrum	L shin L thigh R thigh Sacrum Thoracic	74.9% (74.1–76.3%)	L shin L thigh R shin R thigh Sacrum	L shin L thigh R thigh Sacrum Thoracic
4 (15)	98.1% (97.8–98.4%)	L shin L thigh R shin R thigh	L thigh R shin R thigh Sacrum	81.3% (79.3–82.4%)	L shin R shin R thigh Sacrum	L shin L thigh Sacrum Thoracic	73.8% (71.8–75.1%)	L shin R shin R thigh Sacrum	R shin R thigh Sacrum Thoracic
3 (20)	98% (97.6–98.2%)	L shin R thigh Sacrum	R shin Sacrum Thoracic	79.5% (73.7–81.7%)	L shin R shin Sacrum	L shin L thigh Thoracic	72.0% (65.2–74.5%)	L shin R thigh Sacrum	L shin L thigh Thoracic
2 (15)	97.7% (97.2–98.1%)	L shin R thigh	Sacrum Thoracic	75.8% (69.7–80.2%)	L shin R thigh	L shin L thigh	68.0% (61.5–72.5%)	L shin R thigh	L shin Thoracic
1 (6)	97.3% (97–97.7%)	R thigh	R shin	67.1% (60.2–76.5%)	Sacrum	Thoracic	56.5% (38.0–65.3%)	Sacrum	Thoracic

https://sportsmedicine-open.springeropen.com/articles/10.1186/s40798-020-0237-5

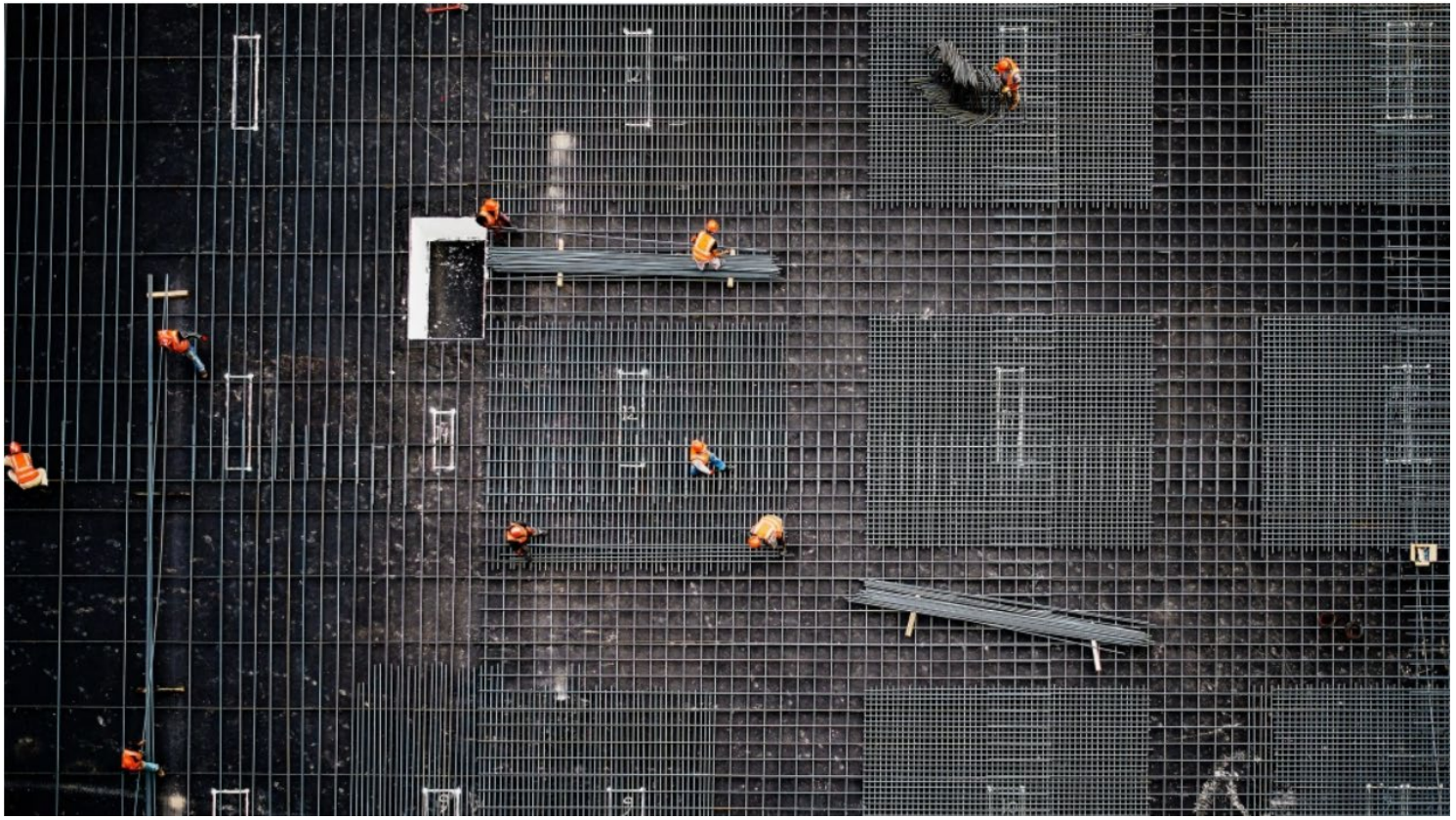
Surgery



Bad, Okay and Good Subcuticular Sutures On A Suture Pad

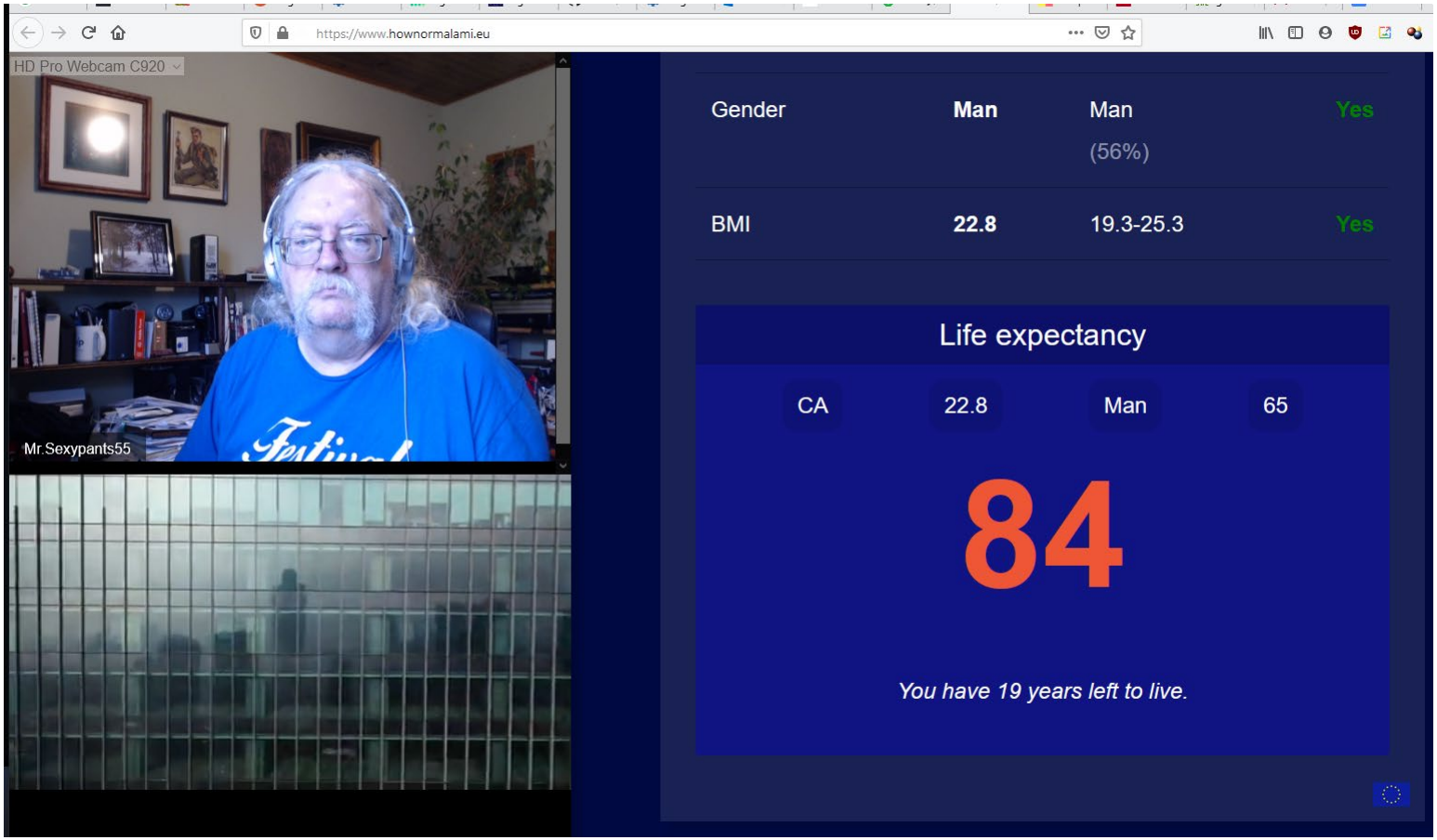
Using AWS Rekognition To Automatically Grade Surgical Residents
https://www.reddit.com/r/MachineLearning/comments/jgx2yy/d_using_aws_rekognition_to_automatically_grade/

Construction



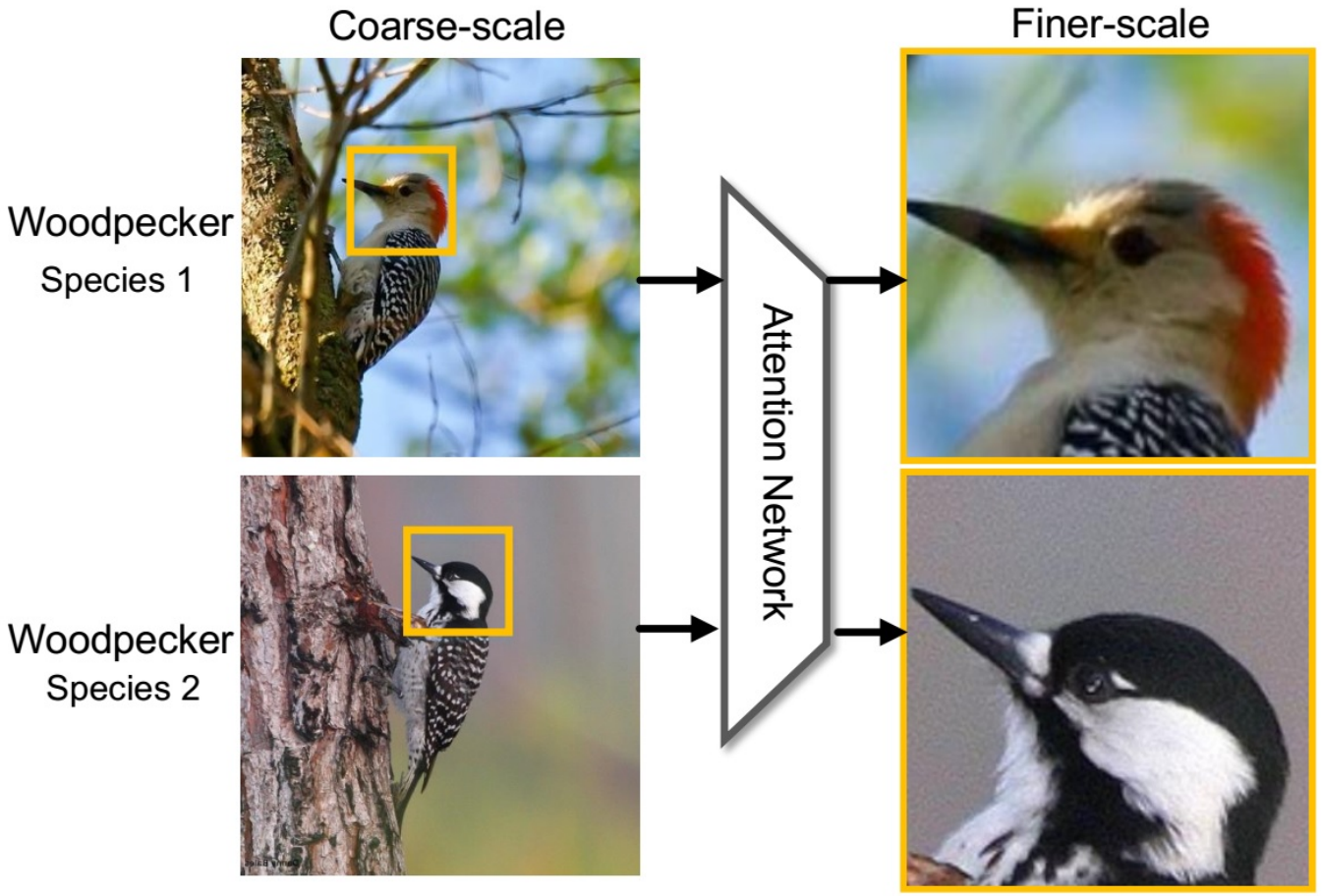
Buildots https://www.technologyreview.com/2020/10/16/1010617/ai-image-recognition-construction-computer-vision-costs-delays/

How Normal Are You?

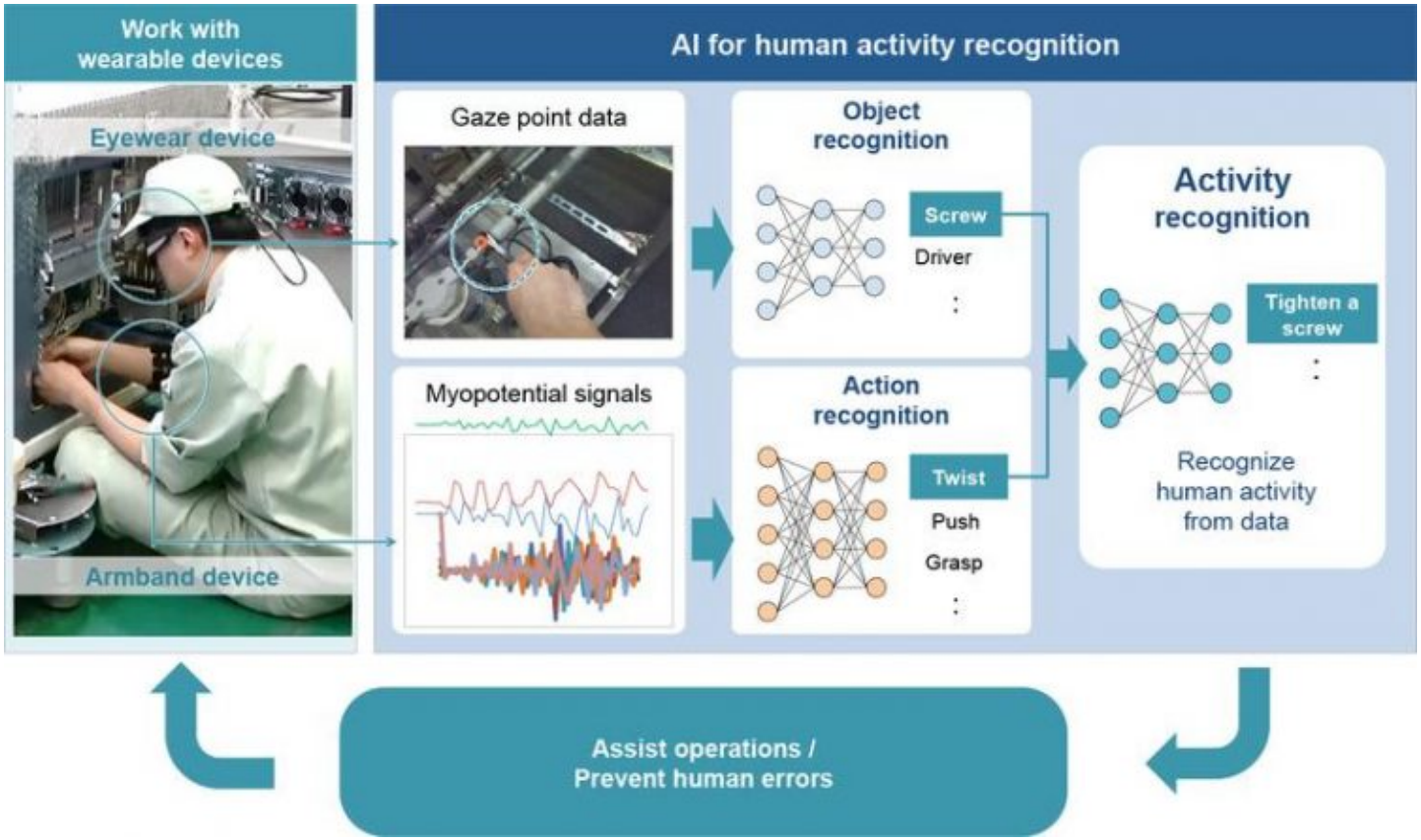


Tijmen Schep https://www.hownormalami.eu/

Recognition Networks

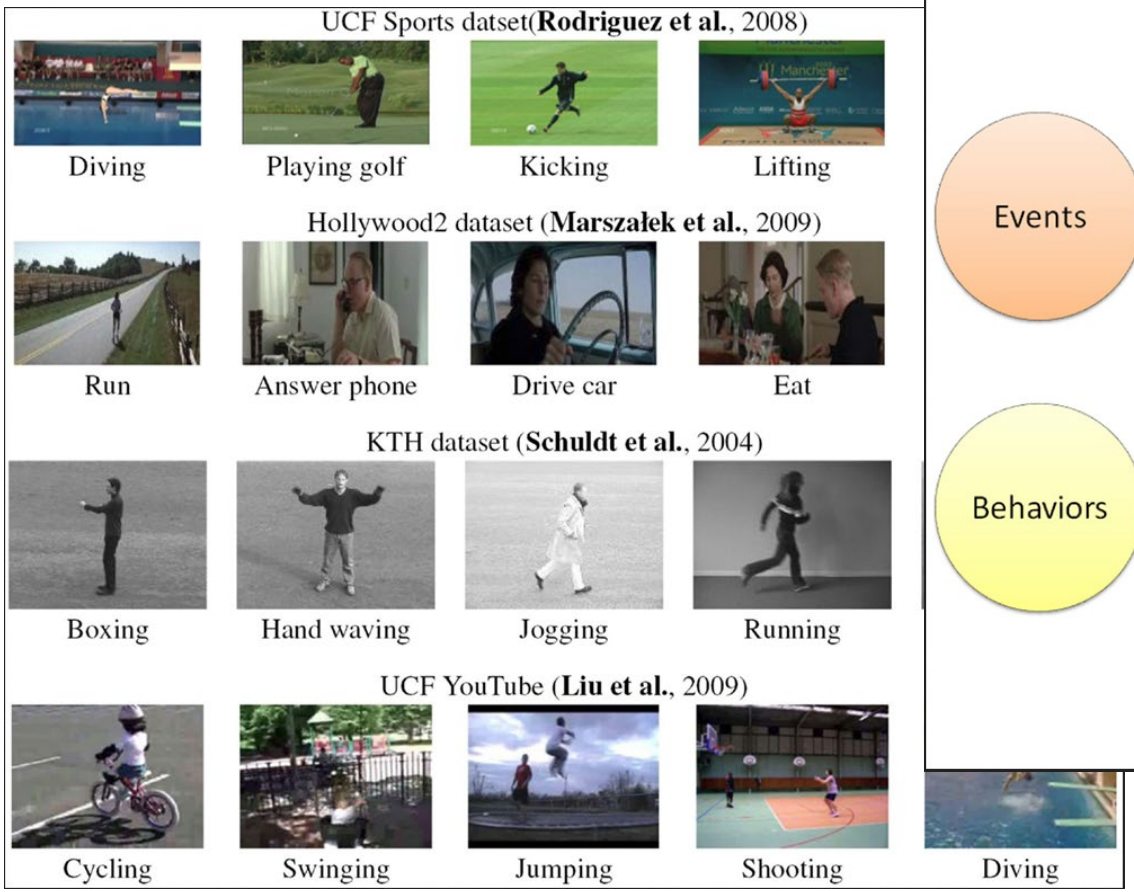


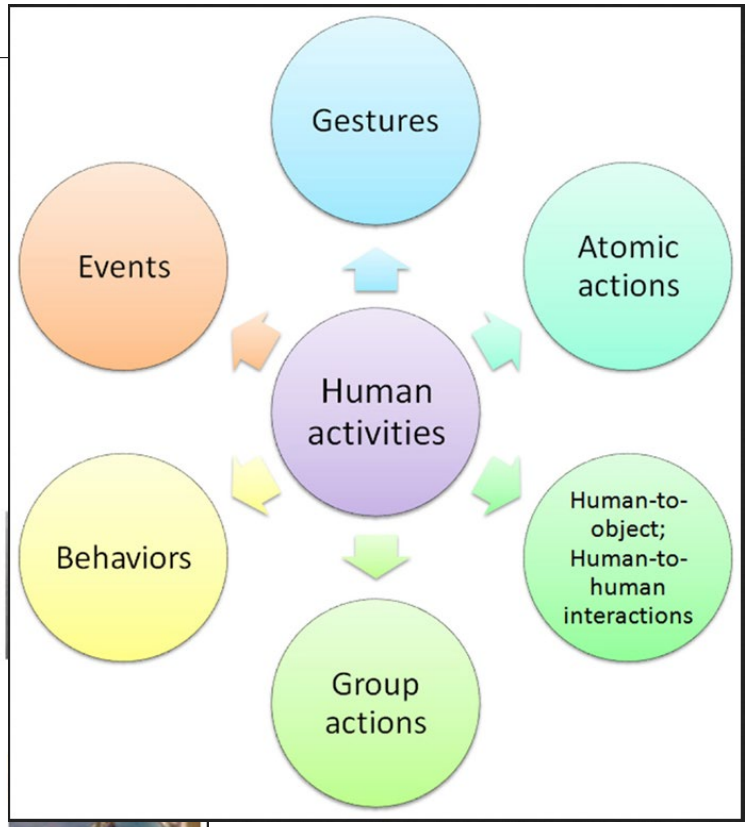
Activity Recognition



https://www.innovations-report.com/information-technology/dfki-and-hitachi-jointly-develop-ai-technology-for-human-activity-recognition-of-workers/
https://ieeexplore.ieee.org/abstract/document/5370804

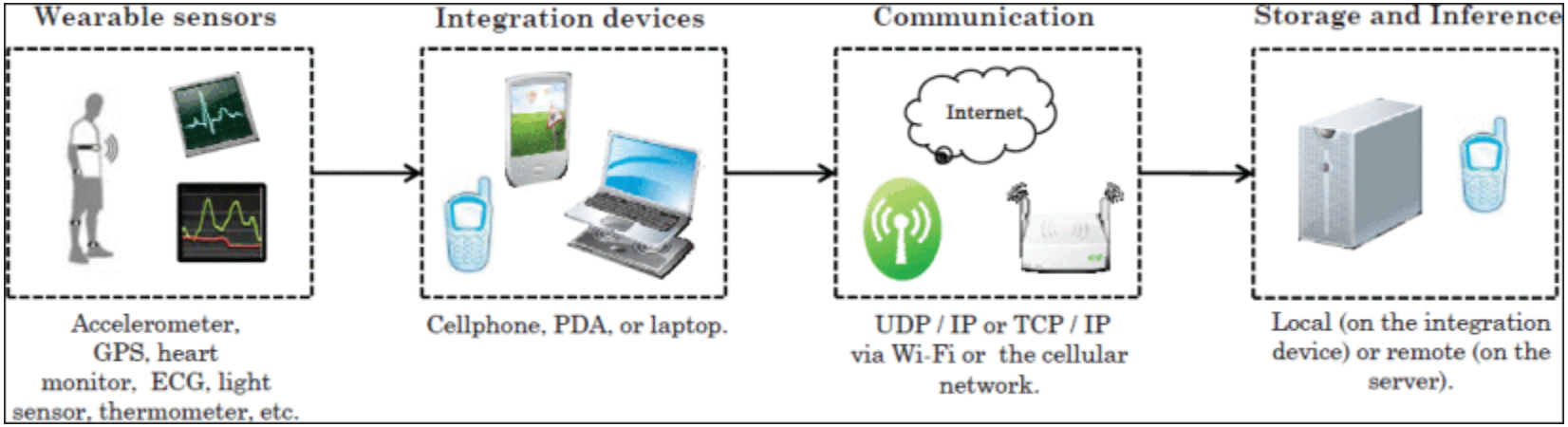
Methods

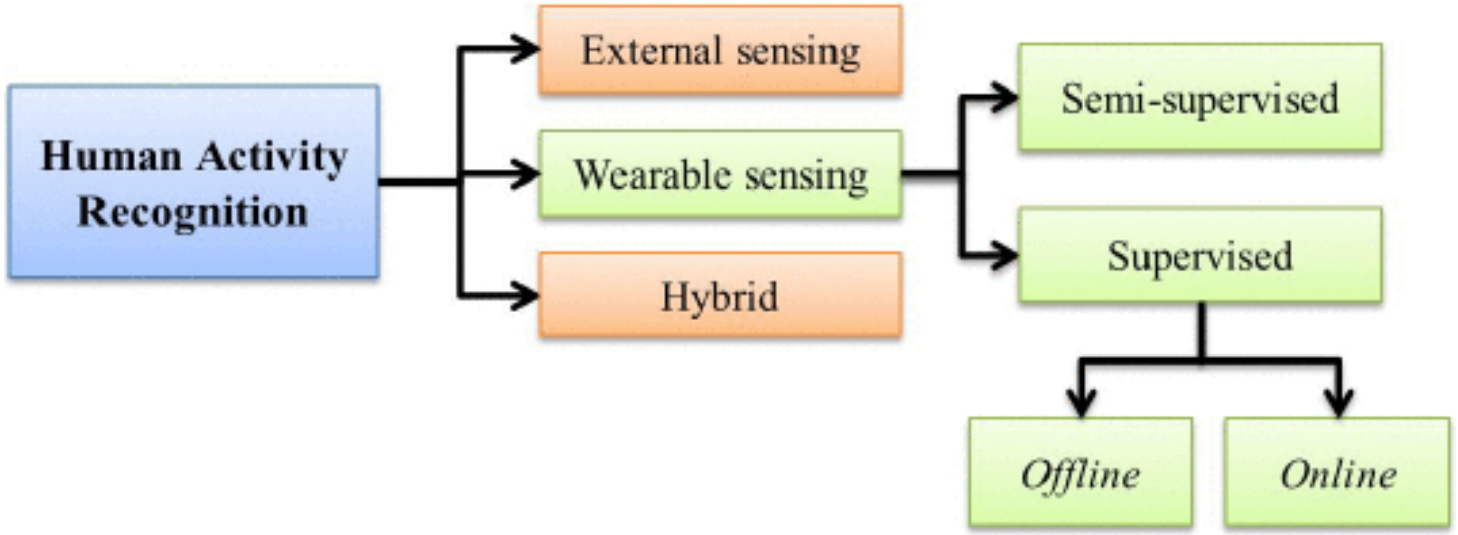




https://www.frontiersin.org/articles/10.3389/frobt.2015.00028/full

Common Technologies





https://ieeexplore.ieee.org/abstract/document/6365160

Applications

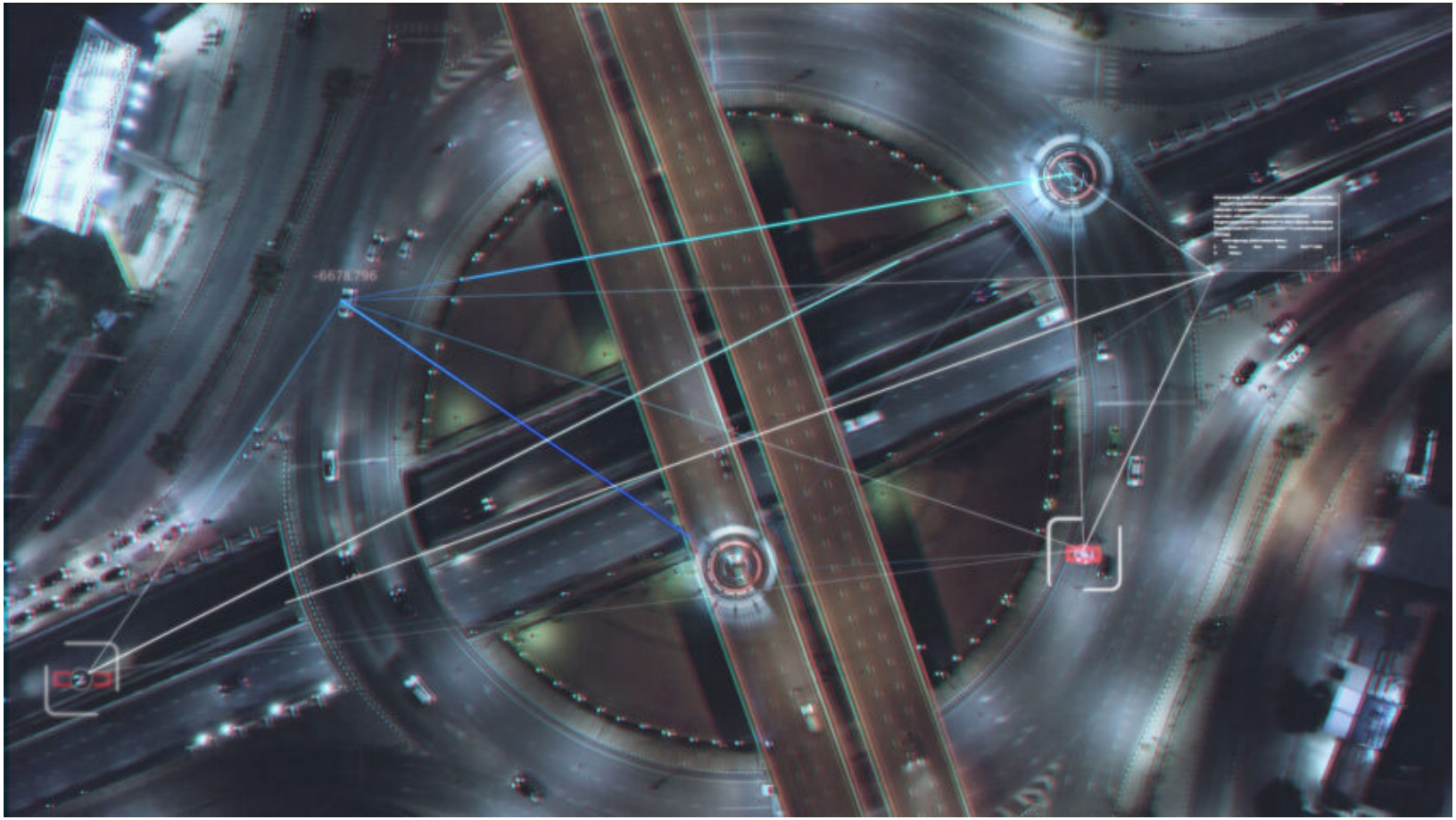
Laura Portal Avelar GC_Innovations https://medium.com/gc-entrepreneur/innovative-staffing-eb541920e18a

Technical Challenges

The activity	Meaning
Recognising parallel activities	Doing more than one activity at the same time, e.g. watching TV and talking to a friend.
Recognising overlapped activities	Activities overlapped to each other, e.g. while a person is cooking in the kitchen and the phone rings he/she will stop cooking for a while until he/she finishes the call.
Vagueness in activities interpretation	Interpret similar activities in different ways. For example, opening refrigerator door may considered as a cooking or cleaning operation.
Multiple occupants	The place occupied by more than a single person.

https://www.researchgate.net/figure/The-challenges-in-human-activities-recognition_tbl1_292140482

Ethical Challenges



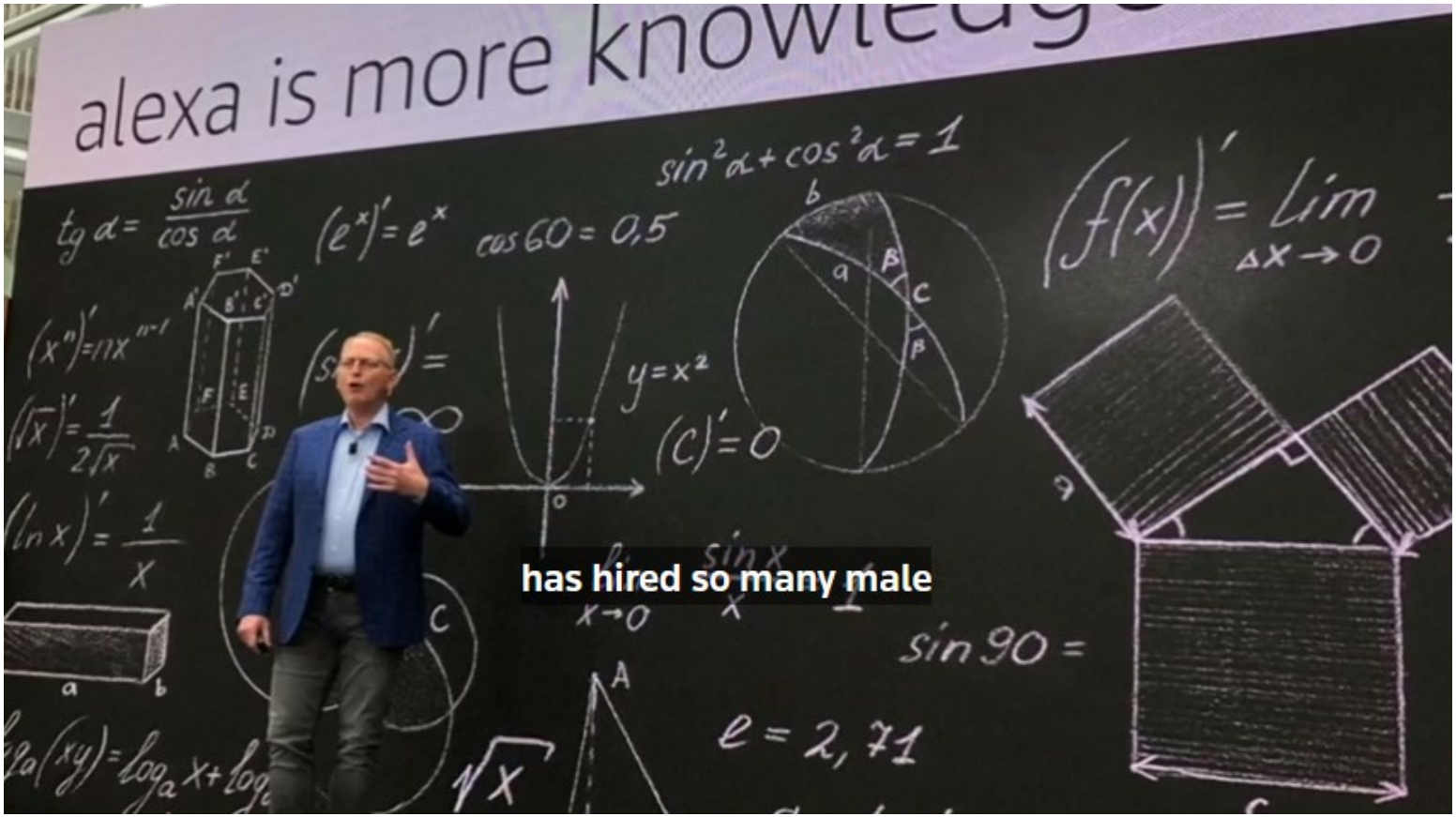
https://hbr.org/2020/10/a-practical-guide-to-building-ethical-ai

Challenges in Human Activity Recognition

Invisibility

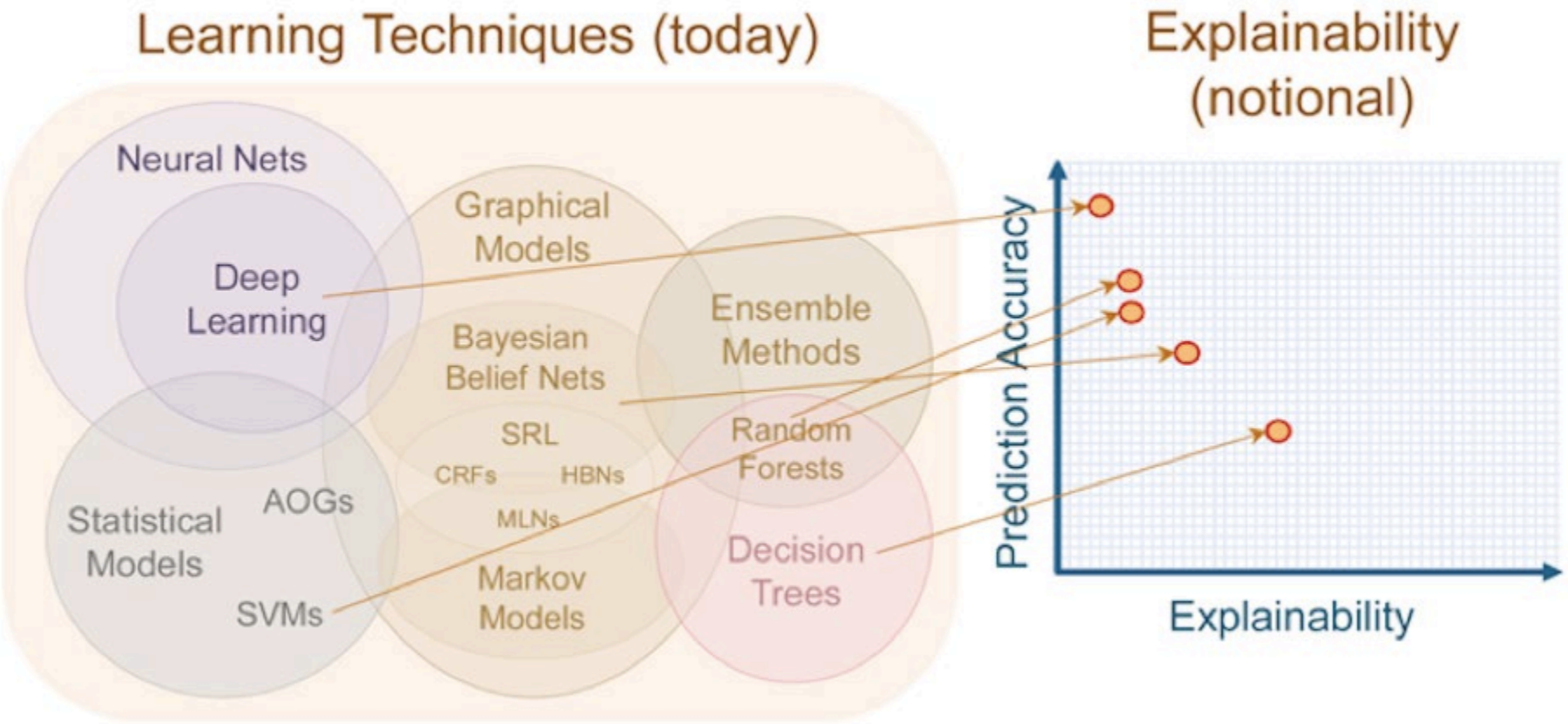
https://schoolsweek.co.uk/making-the-vulnerable-visible-is-how-we-will-close-gaps/

Bias



https://fortune.com/2018/10/10/amazon-ai-recruitment-bias-women-sexist/

Explainability, Interpretability



https://iapp.org/news/a/the-privacy-pros-guide-to-explainability-in-machine-learning/

Surveillance Culture

David Lyon
https://ijoc.org/index.php/ijoc/article/download/5527/1933&usg=AOvVaw1wQCFgARRSAPM6HjEK4ILv

Open Recognition Networks

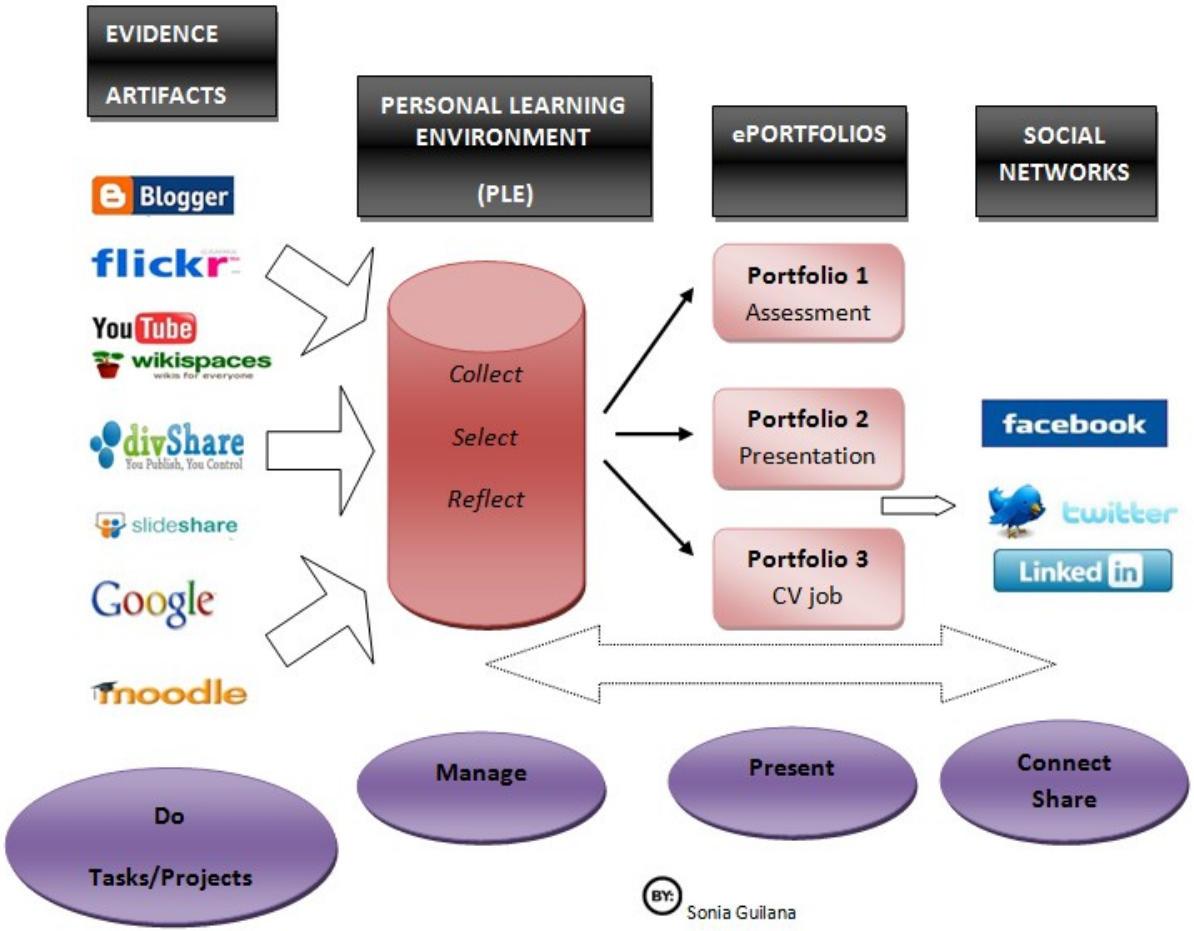
e-Portfolios

https://www.informationweek.com/software/7-ways-to-create-e-portfolios/d/d-id/1110673
https://electronicportfolios.org/balance/Balancing2.htm

Activity Records

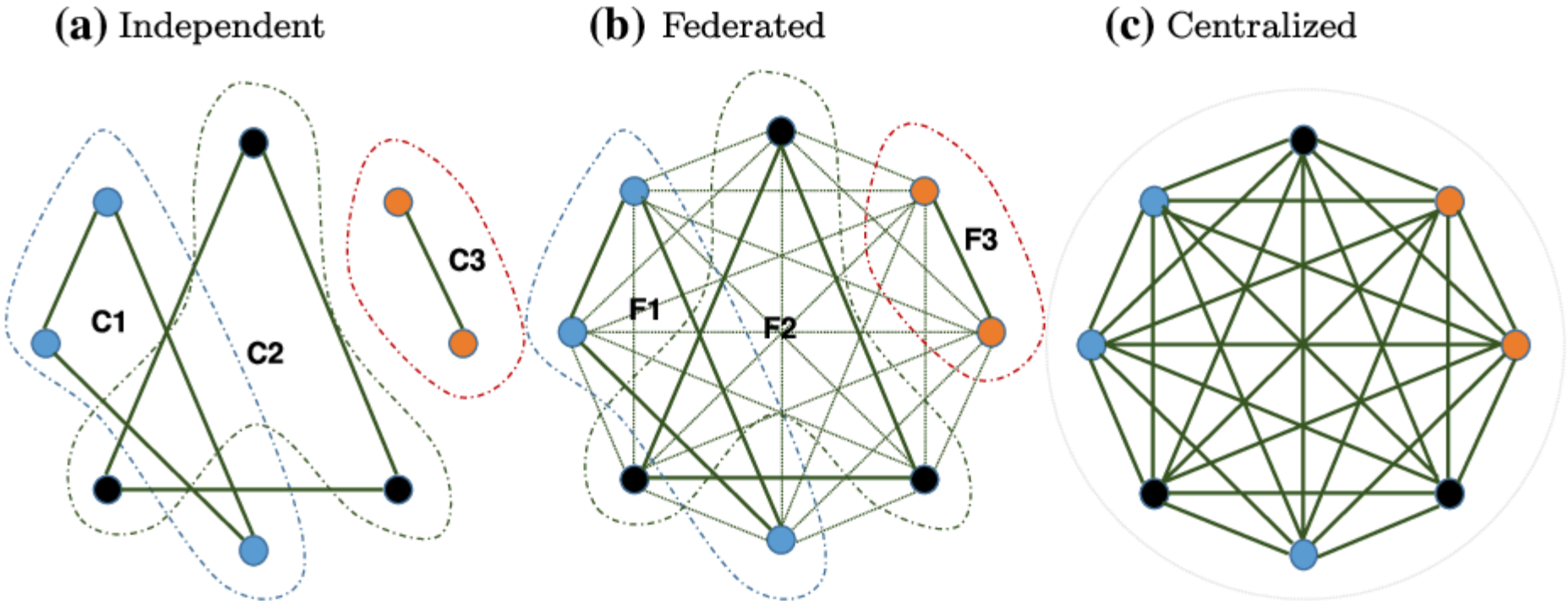
https://xapi.com/overview/
https://xapi.com/learning-record-store/

Ownership and Choice



https://blocs.xtec.cat/portfolioproject/2009/07/24/portfolioroadmap/

Platforms



Federated Networks - https://monoskop.org/Federated_networks

Challenges

Thank You

https://www.downes.ca