

KATI TIAINEN DIRECTOR EMEA





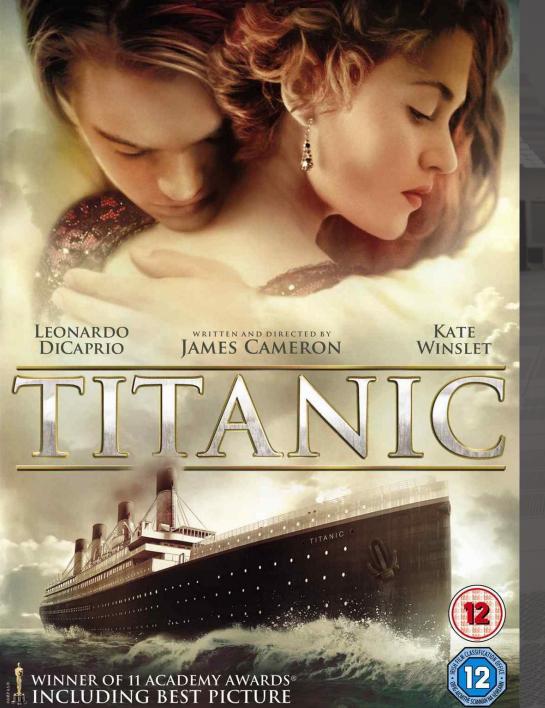
UNDERSTANDING TODAY



THE WORLD HAS CHANGED



"...a computer on every desk and in every home" - Bill Gates



1 TERRAFLOP \$69,000,000.00

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6 **1** TERRAFLOPS \$69,000,000.00 \$699

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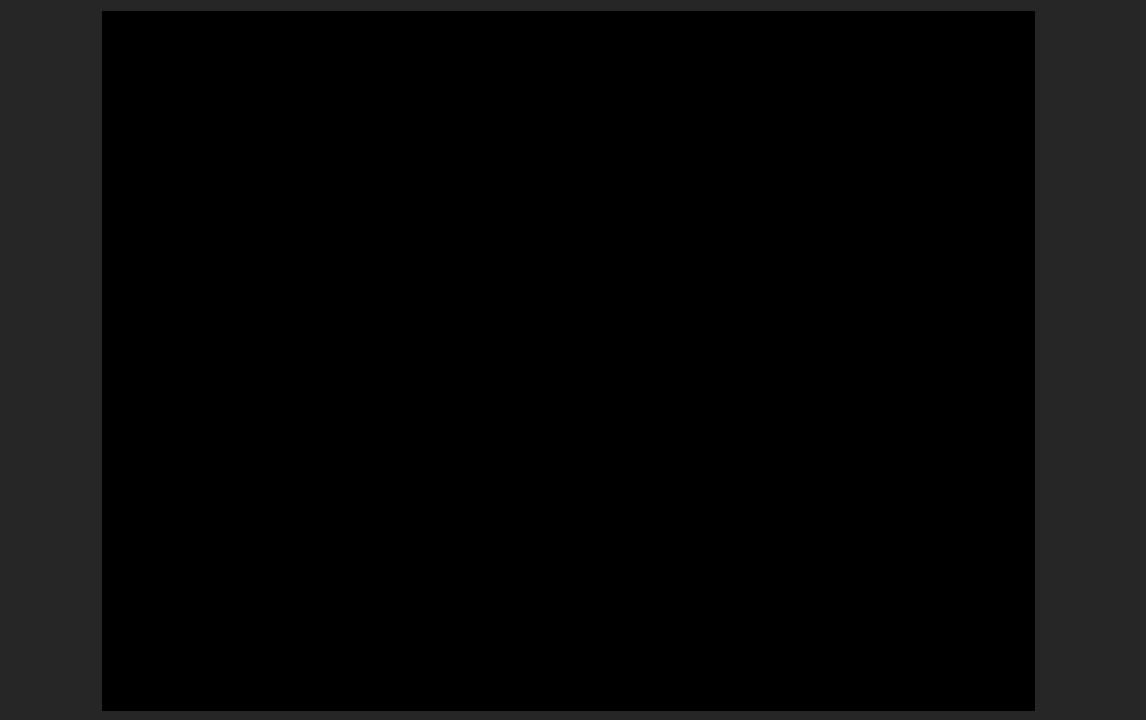
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1780s Steam, water, mechanical production equipment

1870s Division of labor, electricity, mass production

1970s Electronics, IT, The Internet, Automated production 2016 Blurring the physical and digital divide

4TH INDUSTRIAL REVOLUTION



TECHNOLOGY TIPPING POINTS BY 2025



30% of corporate audits will be performed by AI





10% of all cars on US roads will be driverless First government ta collected via a blc

SOURCE: DEEP SHIFT TECHNOLOGY TIPPING POINTS AND SOCIETAL IMPACT | WORLD ECONOMIC FORUM REPORT (2015)



DIGITAL ERA TRANSFORMATION

Digital Masters perform better

Digital Capability

Source: MIT/Sloan "How digital leaders outperform their peers in every industry"

FASHIONISTAS DIGITAL MASTERS Revenue: +6% Revenue: +9% Profitability: -11% Profitability: +26% Market Value: -12% Market Value: +12% +26% Revenue: -4% Revenue: -10% Profitability 7% Profitability: -11% Profitability: +9% • Market Market Value: -7% Market Value: +7% /aluation Revenue **BEGINNER CONSERVATIVE**

Leadership Capability

"Ensimmäinen teollinen vallankumous demokratisoi kulutuksen...

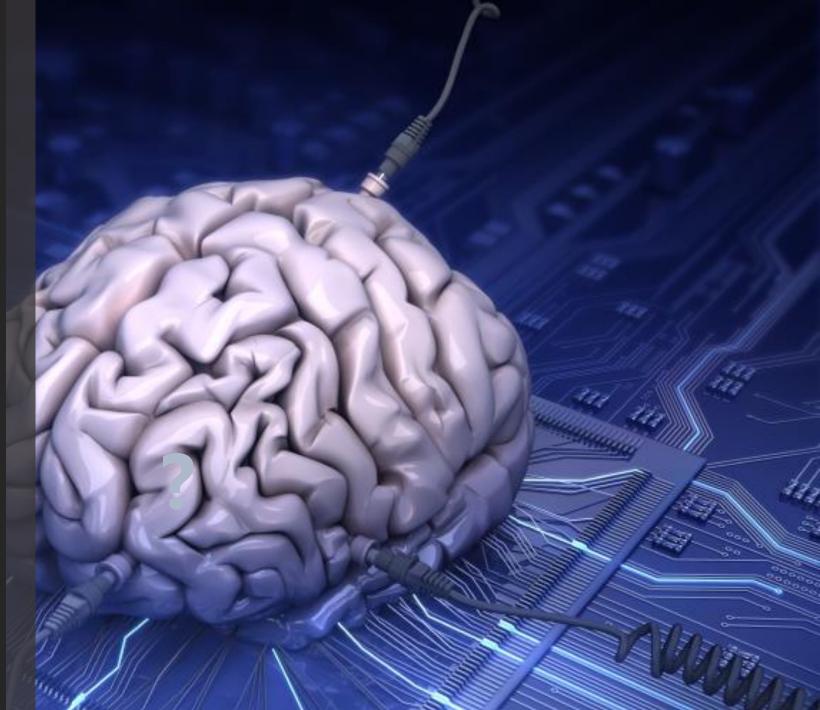
digitaalinen vallankumous demokratisoi tuotannon"

- Esko Kilpi





MACHINES OR HUMANS?



"Teknologia on ollut aina osa ihmisen luovaa ongelmanratkaisua"



- Katri Saarikivi

The world of the future looks very different for our students

65% of students

in grade school will perform jobs that have not been invented yet!

47% of current

jobs are expected to be taken over by machines during the next two decades

6.5 million

new IT jobs by 2022, most in cloud-related technology fields

Only **33%** of the world's demand for employees with technology skills is being met

Percentage of jobs requiring technology skills will **increase to 77%** in less than a decade

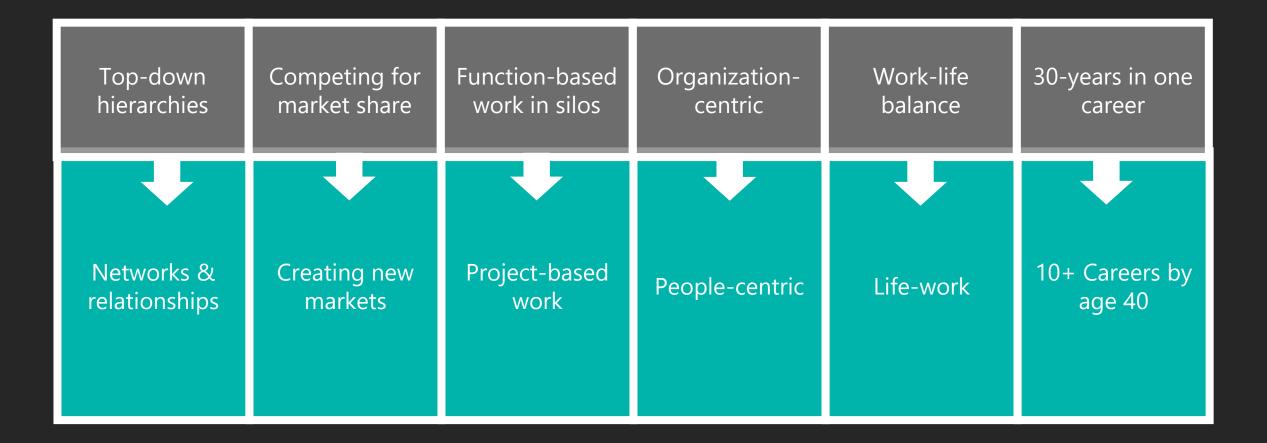


PEOPLE MOVE TO FIND JOBS

JOBS MOVE TO FIND PEOPLE



From 20th century jobs to 21st century work



Keskustelu!

Mikä vaikutti mielenkiintoiselta? Mitä taitoja nuori tarvitsee pärjätäkseen tulevaisuuden työelämässä?

 $\prec \cdot ($

Building essential life skills



PÄIVÄN TIMANTTI: Uusien opetusmenetelmien ongelmat ovat kouluissa tuttuja, mutta Pisa-tulosten laskusta niitä ei voi syyttää

ULKOMAAT: Tuhoisista maastopaloista kärsivä Kalifornia vetää ilmastopolitiikassa täysin eri linjaa kuin Donald Trump

Elämä

Tutkimus paljastaa: Koulujen uudet menetelmät heikentävät oppimista merkittävästi

mpien käyttämä aika lapsen koulunkäyntiin näkyy suoraan eltikangas-Järvinen





Oppilaiden, vanhempien ja opettajien enemmistö alkaa turhautua haittoihin, joita digisekoilu aiheuttaa koulun arjessa

Perinteiset kirjat, opettajan ja oppilaan kasvokkainen kohtaaminen ja opettajan puhe leimataan menneen reliikeiksi.

Julkaistu: 4.10. 2:00 , Päivitetty: 4.10. 10:36

KESKUSTELU kouluopetuksen digitalisoinnin haitoista on viimein ottanut tuulta purjeisiinsa. Oppilaiden, vanhempien ja opettajien tähän saakka hiljainen enemmistö alkaa turhautua haittoihin, joita digisekoilu aiheuttaa koulun arjessa.

DIGILOIKAN perustelut ovat moninaiset. Olemme jääneet Pisatutkimuksissa huippusijoituksista, mihin on ehdottomasti tultava muutos - muutenhan suomalaista koulujärjestelmää ei enää ihailla ulkomailla! Lienee sattumaa, että digitalisaation tuominen kouluihin on tapahtunut samaan aikaan kun sijoitukset vertailuissa ovat pudonneet.

Juhlapuheissa kyllä ylistetään hyviä opettajia ja kerrotaan heidän olevan koulujärjestelmämme menestyksen kulmakiviä. Vuosikymmeniä opetusalalla olleet opetusammattilaiset on kuitenkin nykyilmapiirissä

Luetuimmat - Elämä & Hyvinvointi Luetuimmat Ympäristö laskun syitä tutkinut MIELIPID mästyi saamastaan Mieli ästä: "Kuulostaa ope avalta, jos set on sivuutettu" emin nnyksei Organisaatio Mieh ehkäisy



To deliver on the promises technology holds, countries will need a convincing strategy to build teachers' capacity. And policy-makers need to become better at building support for this agenda.

OECD, 2015



The world economy no longer pays for what people know but for what they can do with what they know

Andreas Schleicher OECD Deputy Director for Education

TECHNOLOGY MUST GO BEYOND DIGITIZATION

THE SAMR MODEL

Dr. Ruben R. Puentedura



SUBSTITUTION

Technology acts as a direct substitute, with no functional change

AUGMENTATION

Technology acts as a direct substitute, with functional improvement

ENHANCEMENT

M

MODIFICATION

Technology allows for significant task redesign

R

REDEFINITION

Technology allows for the creation of new tasks, previously inconceivable

TRANSFORMATION





Using MS Word to replace a typewriter.

Using the spell checker in MS Word

Inserting comments in Word Online -> offering feedback

RANSFORM

Using Word Online to promote collaboration



AUGMENTED REALITY

THE RISE OF DATA

ARTIFICIAL INTELLIGENCE

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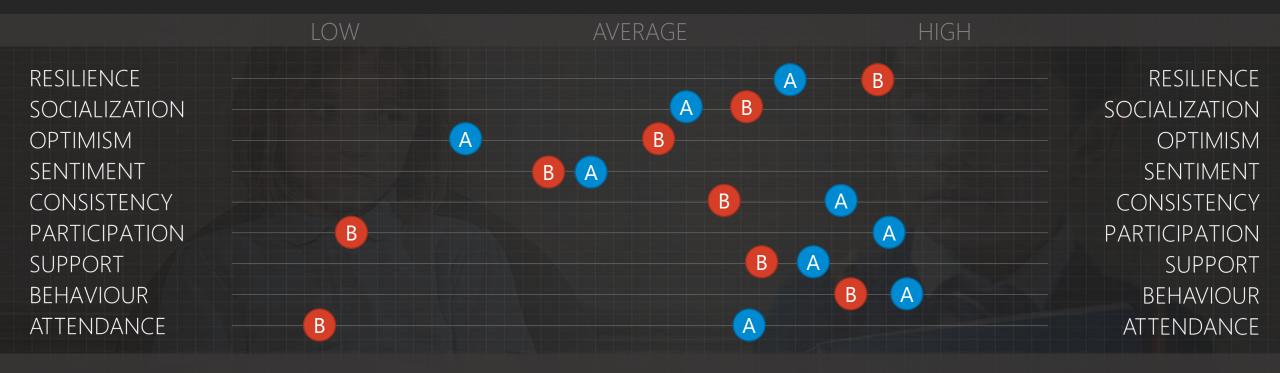
FOUR PHASES OF DATA-DRIVEN TRANSFORMATION



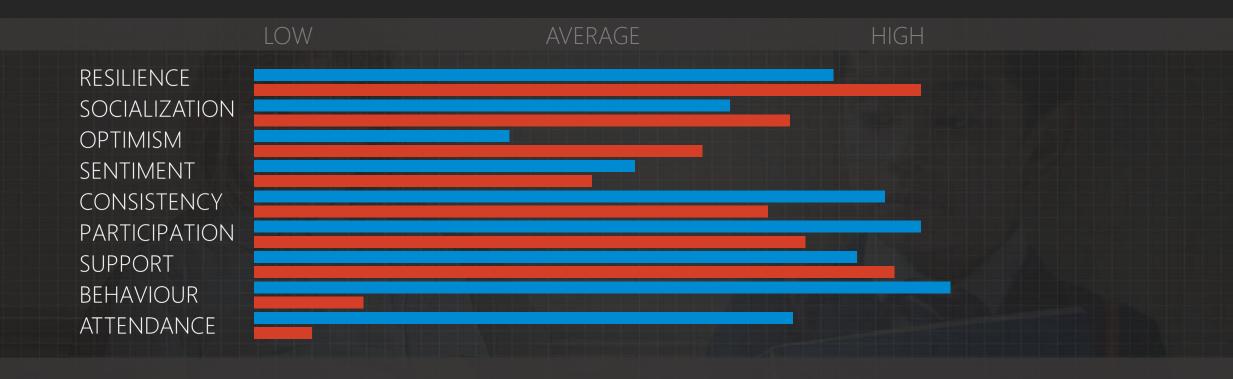
Who is most at risk?



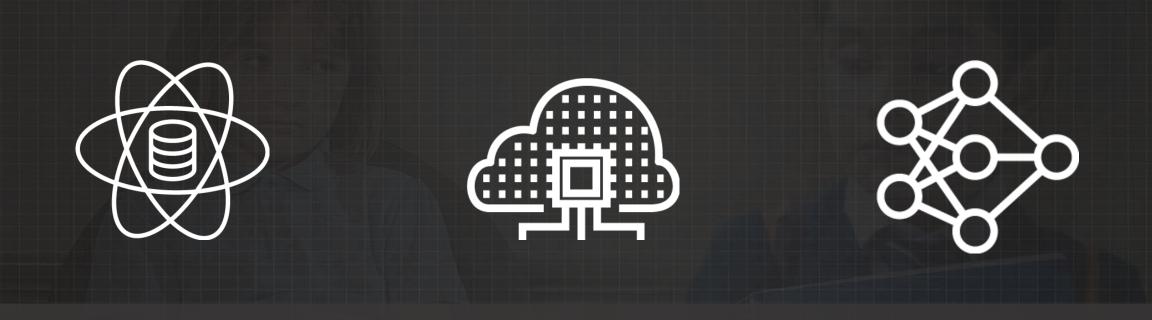
WHO IS AT GREATER RISK?



WHO IS AT GREATER RISK?

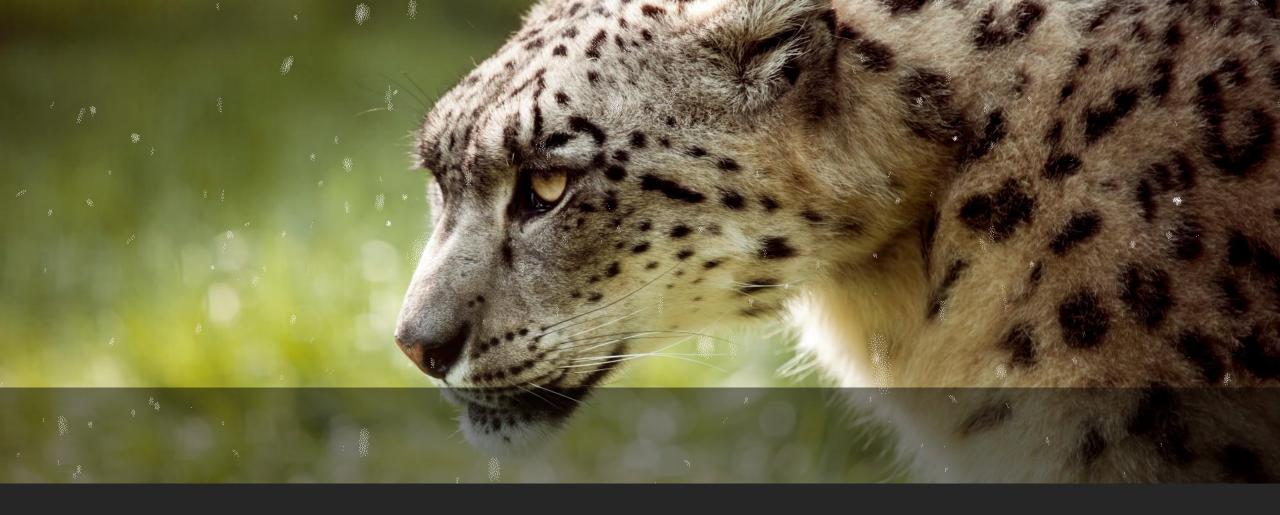


THREE CONVERGING TECHNOLOGIES



CLOUD PROCESSING

MACHINE LEARNING



Panthera uncia SNOW LEOPARD



Population: ?



Population: 5,000*

*SOURCE: Snow Leopard Survival Strategy, Seattle, USA: International Snow Leopard Trust and Snow Leopard Network.





















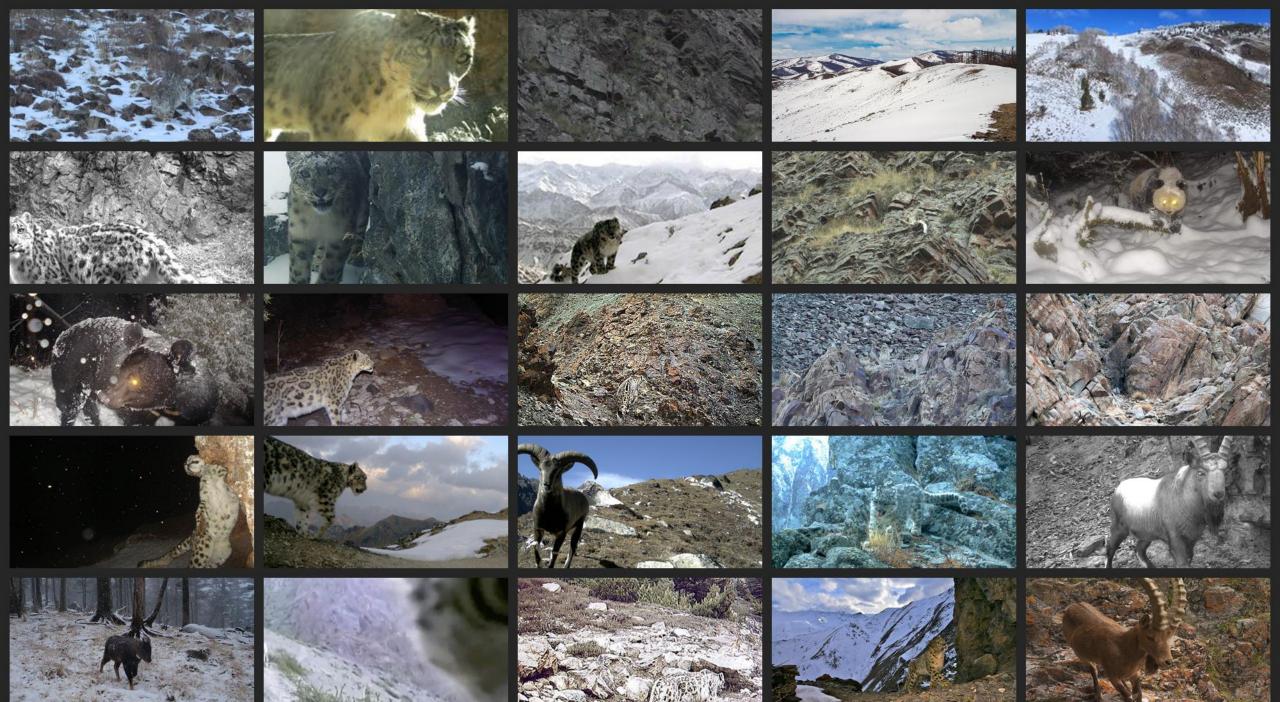




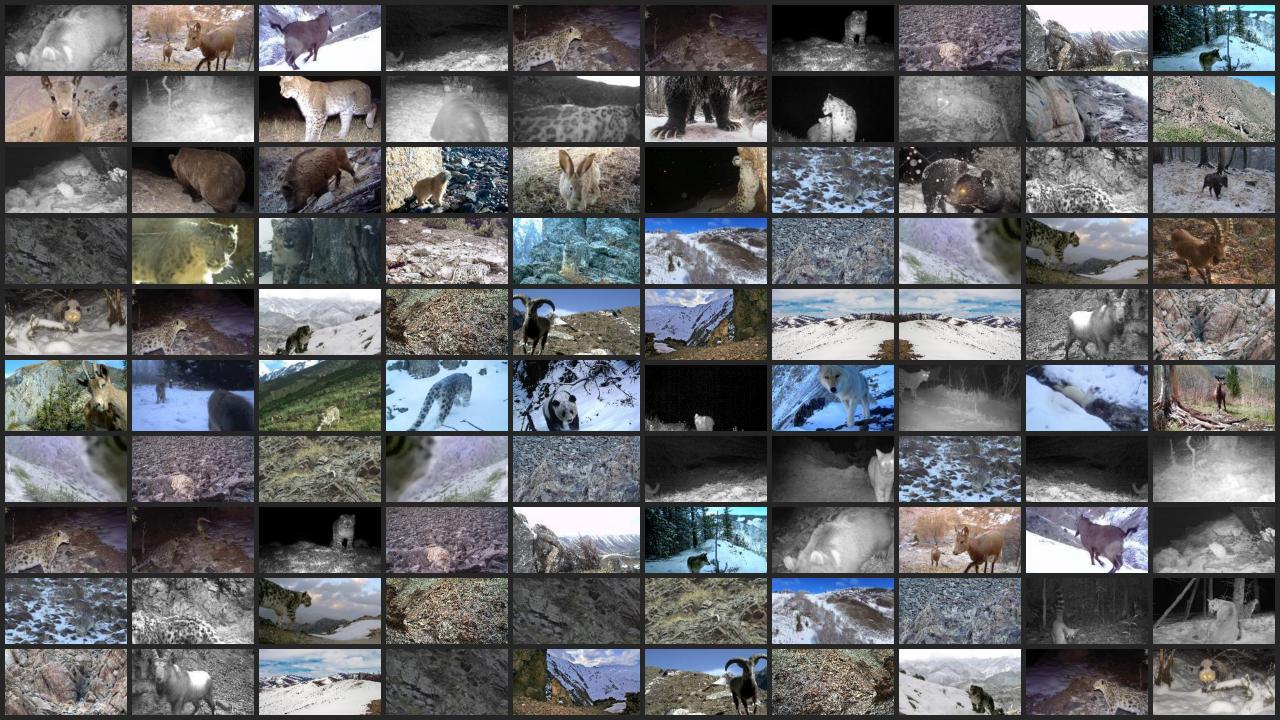




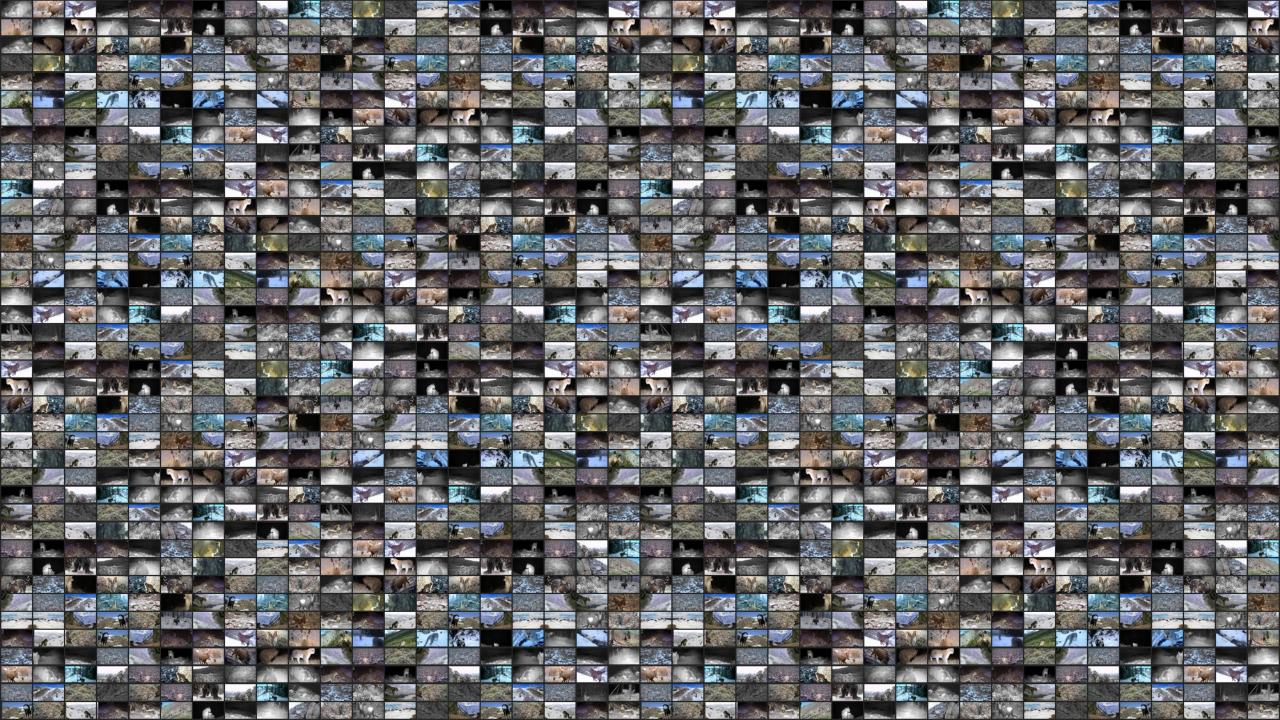




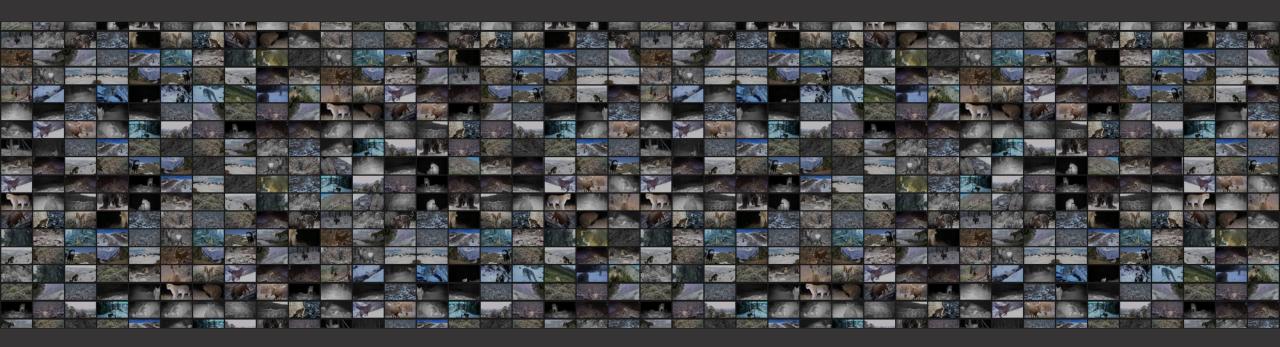








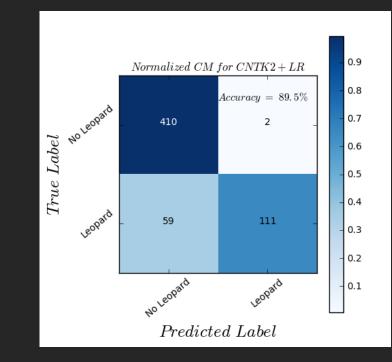
100K IMAGES PER SURVEY 300 HOURS TO CLASSIFY



15 SURVEYS PER YEAR

4500 HOURS (560 8HR DAYS) TO CLASSIFY

90% ACCURACY

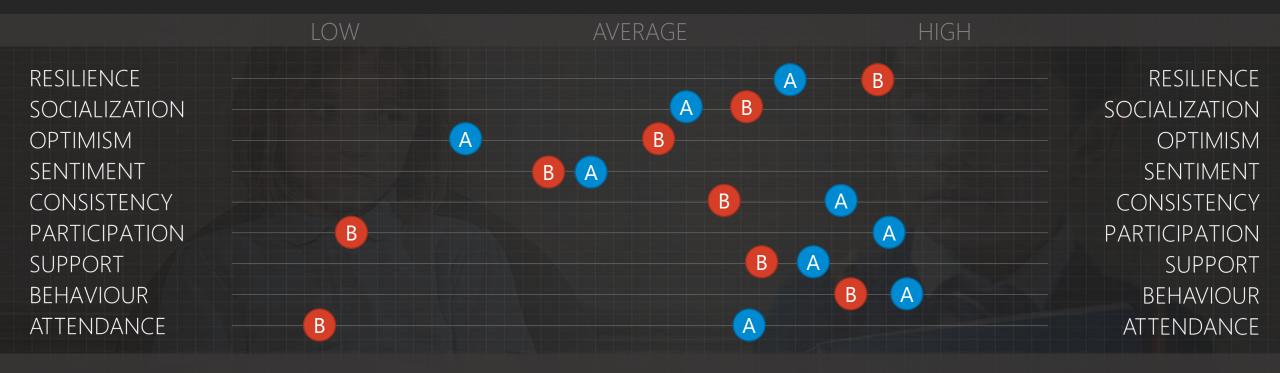


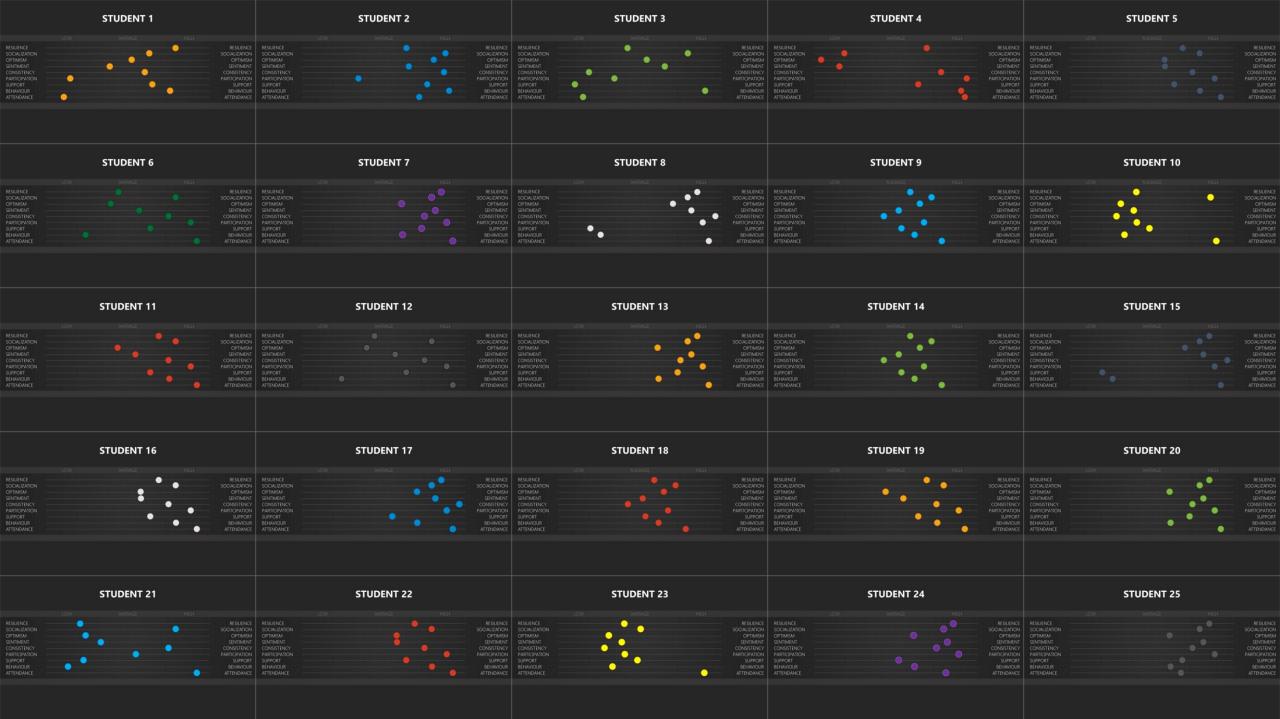




ARTIFICIAL INTELLIGENCE

WHO IS AT GREATER RISK?

















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Kiitos!