Genetic Algorithms

- ALREADY EXIST
- EXAMPLE: TPOT OVER SCIKIT LEARN
- FUTURE APPLICATIONS
  - LUFTHANSA CASANOVA VS ADAPTIVE ROUTING
  - JACOB-MACFARLANE VS GENERATIVE DESIGN FROM AUTODESK

AI WORK BEST AS ASSISTANT TO HUMANS
   - IS SUSTAINABLE
   - AND PROFITABLE

   NOTES:

Digital Twins

- DIGITAL MODEL OF A PHYSICAL OBJECT
- DATA FROM THE PHYSICAL OBJECT
- COMMUNICATES WITH AND MONITORS THE PHYSICAL OBJECT
- COULD BE SOFTWARE REPRESENTATION, OR PHYSICAL ONE
- PRIMARILY GEARED TOWARDS IOT

- ASSET OPTIMISATION
- PREVENTIVE MAITAINANCE

- CAN BE APPLIED TO ASSETS LIKE PEOPLE, THINGS, APPLICATIONS, PLACES
- CAR MANUFACTURES WILL ALSO BE SOFTWARE VENDORS DEPLOYING DIGITAL TWINS FOR COMPETITIVE FEATURES
- SIMPLE OR COMPOSITE
- BRINGS DIGITAL DATA ETHICS INTO PICTURE

NOTES:

Quantum Computing

- INSTEAD OF JUST 0 AND 1, QUIT CAN HAVE MANY 0, 1, AND MANY OTHER STATES AT SAME TIME
- USING SUPERPOSITION AND ENTANGLEMENT, MULTIPLE CALCULATIONS CAN BE PERFORMED AT SAME TIME
- QUANTUM SUPREMACY
- CHINESE QUANTUM SATELLITE FOR HACK-PROOF COMMUNICATIONS
- PROS
  - FRAUD DETECTION
  - BETTER PORTFOLIOS WITHOUT JUGGLING
- CONS
  - ENCRYPTION
  - CRYPTO CURRENCY THREATS

FOCUS ON:
  - ALGORITHM DESIGN
  - QUANTUM RISK ASSESSMENT

   NOTES: