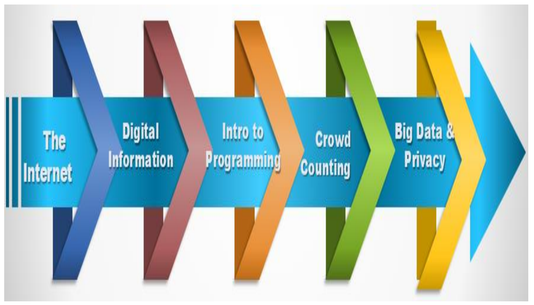


Lesson Objectives:

- Students will be able to describe Crowd Counting the utilization of it within "Big Data" and data collection
- Students will understand the importance of Data Collection and where Crowd Counting fits into Data.
- Students will be able to compare and contrast machine learning methods, AI, and Computer Vision applications

Day 1: Data

- Introduce Data and Data Collection (presentation)
- Introduce and discuss Crowd Counting and its importance.
- Create teams for "Counting Activity"

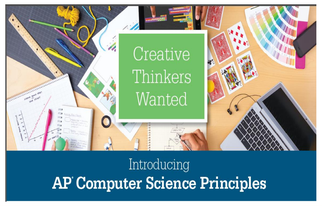
Day 2: Crowd Counting

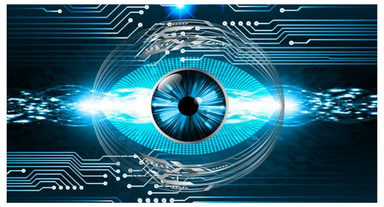
- "Crowd Counting" worksheet activity
- Introduce the Crowd Counting website
- Discuss Crowd Counting algorithm

Day 3: Computer Vision

- Intro and work with Crowd Counting website
- Introduction to UCF Center for Research in Computer Vision.

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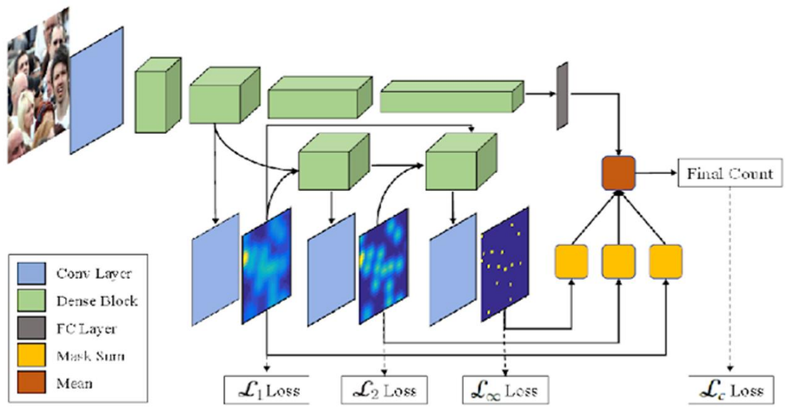
Christopher Canone - Cypress Creek High School – AP Computer Science Principles – RET 2018
Dr. Mubarak Shah, Dr. Niels Da Vitoria Lobo, Center for Research in Computer Vision

Mission: GROWTH and Be BETTER.

My GOALS for this summer were to for me to GROW as a COMPUTER SCIENCE teacher, then challenge my students GROW and be BETTER thinkers and ultimately spread the word of COMPUTER SCIENCE and COMPUTER VISION







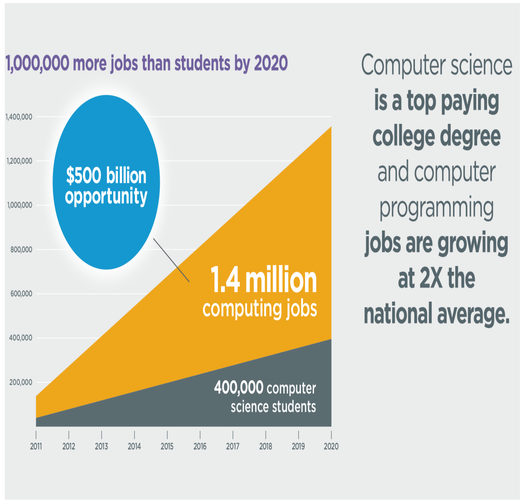
Computer Vision

- The ability for computers to see
- Artificial Sight
- Machine Vision
- Robotic Vision
- Image Understanding
- Image Analysis
- Video Understanding

UCF Center for Research in Computer Vision

Vocabulary:

Algorithm - A process or set of rules to be followed in calculations or other problem solving operations.
Big Data – A term for datasets so large or complex that traditional data processing applications are inadequate.
Crowd Counting – A technique used to count or estimate the number of people in a crowd.



Standard(s)/Benchmark(s) Addressed:

- **EK 4.1.1H:** Different algorithms can be developed to solve the same problem.
- **EK 4.2.3B:** A decidable problem is one in which an algorithm can be constructed to answer "yes" or "no" for all inputs.
- **EK 4.2.4E:** Sometimes, more efficient algorithms are more complex.

Special thanks to Dr. Mubarak Shah, Dr. Niels Lobo, Rodney Lalonde, and Tonya LaPrarie