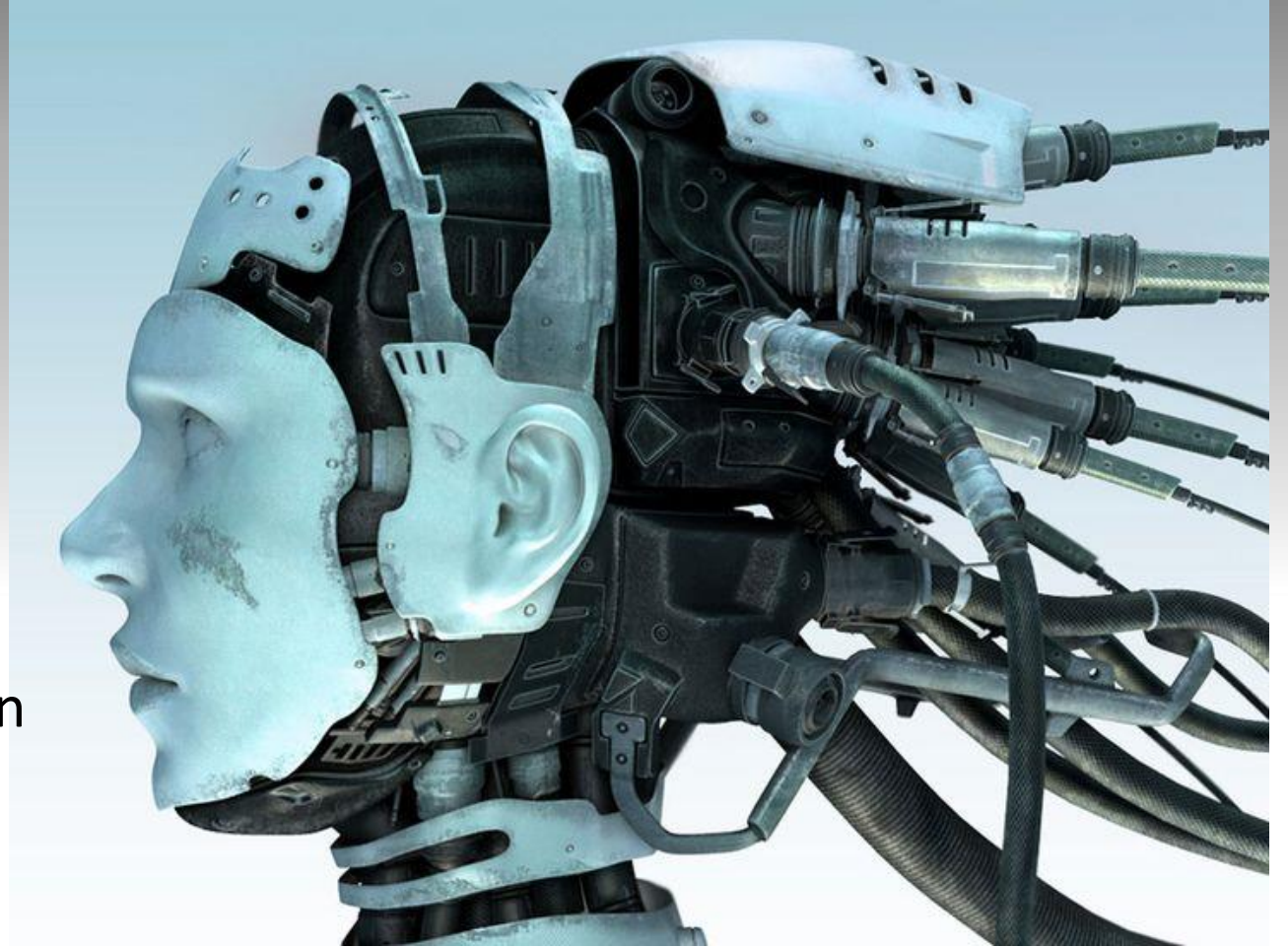


MECHATRONICS ENGINEERING:

Mechatronics Engineering Introduction





MEET YOUR FUTURE, HEAD ON



www.svcte.org



Silicon Valley
Career Technical Education

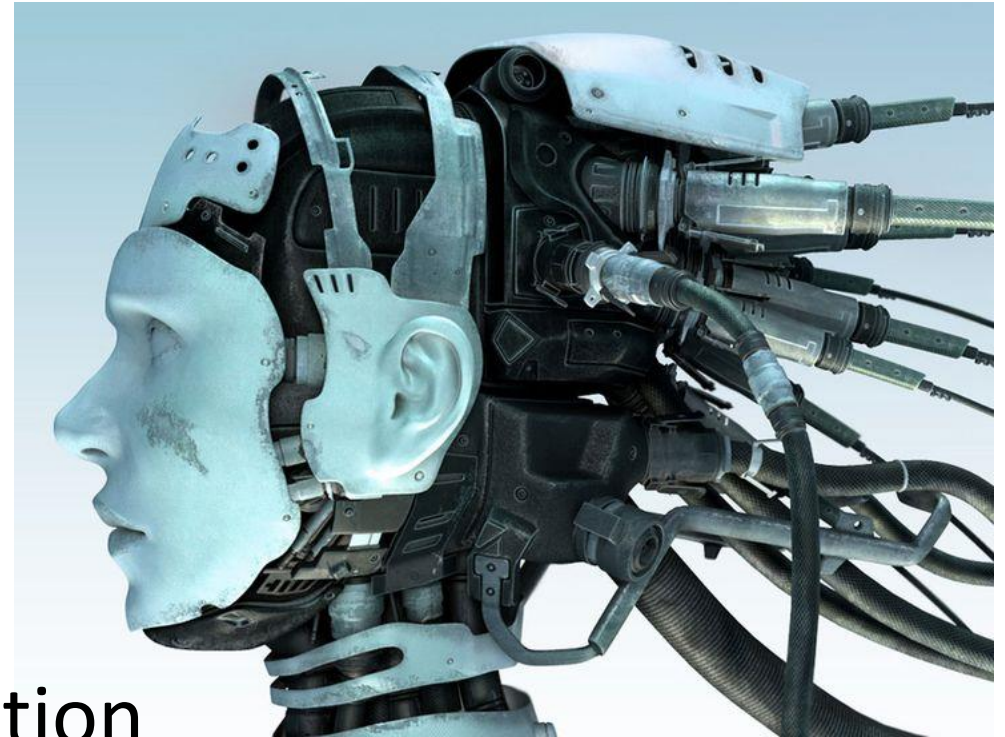
READY TO HEAR ABOUT MECHATRONICS?

- Mecha = Mechanical Engineering & Design
- Tronincs = Electrical Engineering & Design

And that = **Fire Breathing Robots**

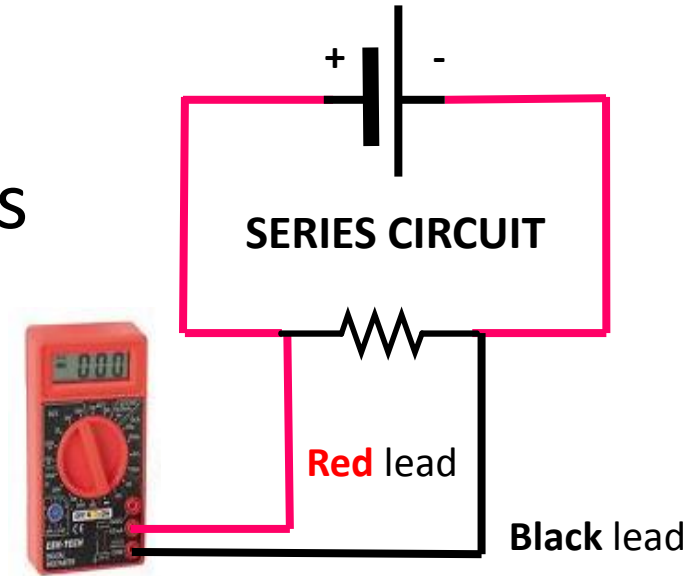
MECHATRONICS - WHAT WILL YOU LEARN?

- Hands on Physics <-- Satisfies the A-G "d" Science requirement
- AC/DC Electronic Fundamentals
- Digital Electronic Fundamentals
- Programming with Microcontrollers
- Mechanical 3D Design & Printing
- Pneumatic Systems
- Programmable Logic Controllers
- Industrial Robotic Theory & Application



MECHATRONICS - WHAT WILL YOU LEARN?

- Introduction to DC /AC & Digital Electronic Circuits
 - Ohms Law
 - Serial and Parallel Circuits
 - Digital Logic
- Programming with Microcontrollers
 - Arduino & Raspberry Pi
 - Learn Linux Command Line
- Programming in C++ & Python
 - CPA Programming Essentials In C++
 - Learn Python



```
class GameOverScene : public cocos2d::CCScene {
public:
    GameOverScene():_layer(NULL) {};
    ~GameOverScene();
    bool init();

    //SCENE_NODE_FUNC(GameOverScene);

    static GameOverScene* node()
    {
        GameOverScene *pRet = new GameOverScene();

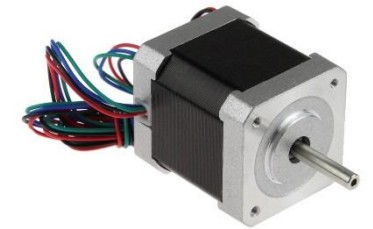
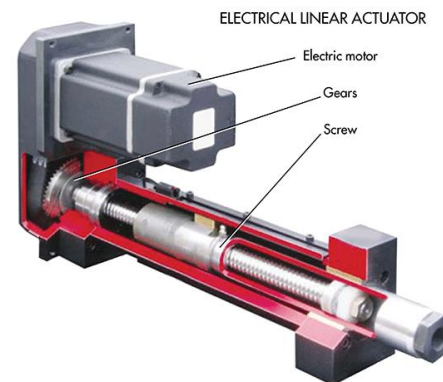
        //Error: undefined reference to `GameOverScene::init()'
        if (pRet && pRet->init())
        {
            pRet->autorelease();
            return pRet;
        }
        else
        {
            //Error: undefined reference to `vtable for GameOverScene'
            delete pRet;

            pRet = NULL;
            return NULL;
        }
    };
};
CC_SYNTHESIZE_READONLY(GameOverLayer*, _layer, Layer);
};
```



MECHATRONICS - WHAT WILL YOU LEARN?

- Programmable Logic Controllers
 - Ladder Logic
 - PLC Programming & Control
- Industrial Robotic Theory & Application
 - FANUC LR-MATE Robot
 - Stepper, Servo & DC Motors
 - Linear Actuators



AND WE GET TO BUILD COOL STUFF FOR HALLOWEEN

WWW.SQUEAKYHINGE.COM



WE ARE ALL ABOUT "HANDS ON" & PROJECT BASED LEARNING

Project Examples

MEET MY STUDENTS...

- They come from all over San Jose and Silicon Valley
- Some know they are going to College right after High School
- Many are the first in their family to consider College
- About ½ don't know what the future is after High School
- A few tentatively asked, “Will there be a lot of MATH?”

**But they decided to take a chance on
Me and my Mechatronics class**

MY HOPE FOR THEM...

- Expose them to Hands on Engineering
 - Electronics and Programming
 - Fanuc Robot Tool Handling Certification
 - Exposure and Training with Programmable Logic Controllers and Industrial Automation
 - Prep them for a CPA C++ Certification
- Strong Pathway to College Engineering
 - Electrical Engineering
 - Mechanical Engineering
 - Mechatronics Engineering
 - Computer Science

