Paul Comitz
IS 147-247 professor at UMBC

Intro:

- Overview of some real world jobs and careers
- Learning is lifelong
- Deliberate Practice
- Universities/viewpoints

Instructor overview:

- adjunct professor since 1990- has been at umbc since 2000
- adjunct- likes to work in academics, and applied academic
- became systems engineer: blend all engineering roles
- director of software development small company
- program manager boeing

Schooling:

- started off as an electric engineering, went back to school
- got 4 ms/phd programs paid for by company
- MA Mgmt, MBA, MS CS, PHD CS (all while working)
    - *Told boss he needs to do 32 hours a week instead of 40 hours a week to handle his phd work
- Other places to learn are always options: Coursera

Career

Professor:

- California, HCC, UMUC, Annarundel CC, UMBC

Some of his biggest career moves:

- got his first job 1986- embedded software analyst:
    - Northrop Grumman(when it was first Grumman)- Embedded Flight Computer
        - A6 Intruder (from movie Top Gun) in Long Island
        - took field job at naval dev center Cali
            - f14 Tomcat (building right on beach and the doors opened to a radar)
                - orange drones over pacific very exciting
- Boeing (Air Traffic Mgmt Department Head)
    - Network Enabled Operations Chief Engineer/ended PM
    - 2010-2018
    - Facilitate Info sharing between governemnt agencies
    - Created architecture
        - that could handle things like the govt response to things like hurricane katrina
        - ESB - distributed to different systems accross country

            - used JMS, common representatio of data
- MITRE
    - Supported US Census Bureau
    - wrote cover sheet (App Programming Interfaces Governance Framework Report)
    - Helping with Data Spraw(when enormous data is everywher and not carried well)
    - The VA/Govt in need of cyber security specialists
    - Worked on the Zachman Framework(1month to do)
- Raytheon
    - Software Defined Radio
        - application that receives real time transmissions of flight data
            - drag and drop to python software

<u>In Demand Careers</u>

- Quantum Computing:
    - Fascinating that makes things that does not seem real a reality
        - How to teach quantum physics to your dog
- Artificial Intelligence:
    - great way to learn new technologies
- Cyber
- Blockchain:
    - future of money is digital
- Best:
    - Combination of CS/IT with another discipline (physics/medicine)
    - Our civilization runs on software now so it is the best to combine soft and hard skill

<u>Techniques for lifelong learning:</u>

- Deliberate Practice
    - Learning is lifelong TED talk
- Something where a mentor is really helpful to get feedback
- You need to get uncomfortable outside of your comfort zone
- Maximum undivided effort
- Full attention to everything you are doing
    - (Perfect practice makes perfect)
- In music there are only 12 notes, yet we are able to create the most complex composition
    - Duke Ellington: could not give you note by ear
    - Perfect Pitch: (myth you either had it or didnt) ability to giv you note by ear
- Anyone can do it, but they need to go beyond abilities that are easy to them

<u>Advice from Professor:</u>

- The best part about tech is that if you don't like a job you can change it
- Should not work a job you do not like it

- Work for small company if you can
- Interviews are poor way to pick candidates (more of a social thing)
    - Practice Interviewing
        - Good way to begin is: would it help if I told you a bit about myself
        - Know what you are going to say, in a very comfortable way