COMPUTER SCIENCE
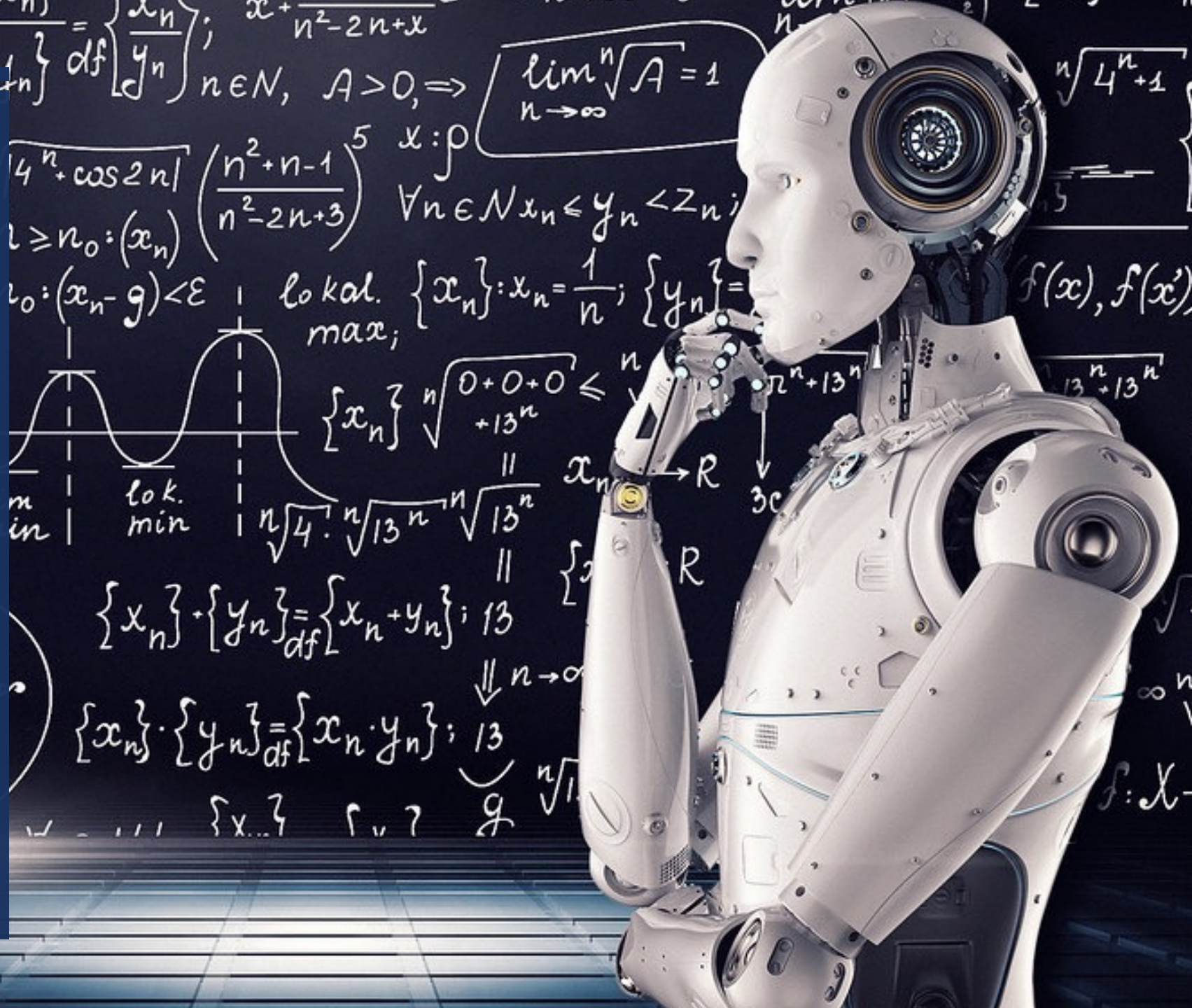
DR. MARTINE CEBERIO

PROFESSOR OF COMPUTER SCIENCE

THE UNIVERSITY OF TEXAS AT EL PASO

MCEBERIO@UTEP.EDU

HTTP://WWW.MARTINECEBERIO.FR

OF INTEREST

- What is Computer Science?
- What jobs can you get?
- What do you need?
- What needs attention?
- Other / Questions?

WHAT IS CS?

- The study of computers & computational systems

- Solving problems with computing devices

How to solve problems with computers?
Programming languages, software engineering, OS and architecture

What problems are solved?
Privacy, security, human computing-device interaction (speech, brain-computer interaction), computer vision, etc.
Your imagination is the limit: CS applies to medicine, law, chemical engineering, power grid, crisis-response operations, etc.

What problems can we solve / not solve?
Is a problem solvable? How scalable is a given tool?
Should we use an approximation or can we hope for true solutions?

COMPUTER SCIENCE AREAS

Software engineering	Theoretical computer science	Security / cybersecurity, Privacy	Human/Brain Computer Interaction: Speech processing, vision, etc.
Artificial Intelligence (AI) – not all of it is Machine Learning ☺	Systems: OS, architecture, High-Performance Computing, etc.	Data Science: analysis, mining, acquisition, curation	Some at the intersection of other areas: robotics, bio-informatics, etc.

JOBS YOU CAN GET

- Industry
- Government
- National Labs
- Academia
- Other

Software developer, engineer, tester, architect

Web developer, front-end, back-end, full-stack developer, mobile-app designer, developer

Product manager, program manager

Data analyst, data scientist

Database administrator, systems analyst, network architect, security officer

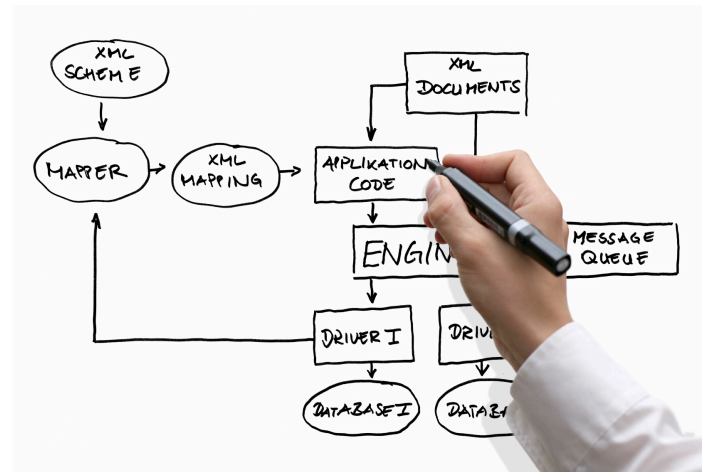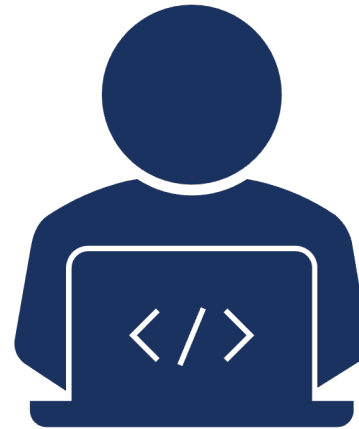Cybersecurity specialist, security officer, forensics specialist

Computer scientist or computer science researcher, research & development scientist

Computer science teacher, computer science professor

Jobs you get from going to med school, law school, any other career after CS

EXAMPLES: SOFTWARE ENGINEER, ARCHITECT, TESTER

ROLES

QUESTIONS?

WHERE CAN YOU WORK (IN CS)?

- Any of the tech companies that come to mind: Google, Apple, Facebook, Amazon, Twitter, Uber, …

- Also hospitals, banks, oil companies, insurances, department stores, …

- Game companies: Rockstar games, Riot games, Nintendo, EA, Epic games, …

- Web design companies

- Health informatics and other AI startups

JOBS IN EL PASO: A SAMPLE

Computer Scientist
Federal Bureau of Investigation
El Paso, TX
via Salary.com
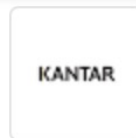
💼 Full-time   🛡 Health insurance

Open-Rank (2 positions): Computer Science
University of Texas at El Paso
El Paso, TX
via HigherEdJobs

💼 Full-time

Software Engineer
General Dynamics Information Technology
El Paso, TX
via Lensa

🕐 3 days ago   💼 Full-time

Junior Software Engineer
Kantar
El Paso, TX
via Job\Searcher

🕐 16 days ago   💼 Full-time

El Paso College Computer Science Tutor
Varsity Tutors
El Paso, TX
via Snagajob

🕐 8 hours ago   💼 Full-time

📖 No degree mentioned

Software Engineer
Tata Consultancy Services
El Paso, TX
via Adzuna

💼 Full-time

WHAT DO YOU NEED?

- A CS degree (BSc. at least)

- A portfolio of your work

- Ability to work with others*

- Later on: ability to write and present

MORE ON ESSENTIAL SKILLS

Problem solving
Computer programming and OS / architecture
Software engineering
Knowledge in AI, security, mobile-app dev., …

Attention to details
Creativity
Communication
Teamwork & cooperation

Technical writing
Math as it supports problem solving

DEBUNKING MYTHS

CS is not about computers, it is about solving problems

You do not need to be "good at math", because "good at math" means nothing!

Jobs pay well but that's not what you want

WHAT NEEDS ATTENTION?

A PORTFOLIO OF YOUR WORK

A PORTFOLIO?

You do not want to be one in many!

- Personal projects: apps, games, websites, …

- Community services

- Internships EARLY!

- Seek training, conferences

QUESTIONS?

GETTING STARTED

- Start your own project

- Google CSSI (seniors)

- AI4All

- UTEP Nexus program

- Be curious (tons of free workshops on EventBrite)

- Teach younger minds:
  - NCWIT AspireIT
  - Hour of Code

- **Visit CS@UTEP!**

HOW CAN WE HELP YOU?

- Reach out: mceberio@utep.edu

- Visit us at UTEP:
  - Group visits
  - Workshops
  - Etc.

- **Any suggestions?**

LINKS

Google Computer Science Summer Institute: https://buildyourfuture.withgoogle.com/programs/computer-science-summer-institute/

EventBrite: http://Eventbrite.com

NCWIT AspireIT: https://ncwit.org/program/aspirations-in-computing/aspireit/

NCWIT Aspirations in Computing: https://ncwit.org/program/aspirations-in-computing/

Hour of Code: https://hourofcode.com/us

THANK YOU FOR YOUR ATTENTION