Computer Science Opportunities for Middle and High-School Students

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Welcome to this session

- Let’s get to meet each other
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- Now take 3 to 5 minutes to introduce yourself to your nearest two neighbors (form groups of 3)

AND share with your group why you are attending this session
Goal of this session

- Share with you opportunities for students
  - That we have at UTEP
  - Or that we hear about through our work

- This talk is somehow a catalog
  - Not exhaustive

- A way of passing information, from my own experience
Opportunities

- There are many
- Most are under-used
- In this presentation: a tour of a subset of them
What type of opportunities?

- Activities, camps, programs, community service
- For students of middle and high schools
- To broaden their horizons, to acknowledge their passions, to enhance their college dossiers, to enhance their confidence, to given them a better view of what they might or might not want to do when they grow up
- In other words: for new comers as well as for students who are already passionate about computer science
Here is today’s menu

- NCWIT AiC
- Aspire IT
- Excites
- Nexus
- Tours
- Hour of code
- Google internships (CSSI)
- (formerly Google) IgniteCS
- AI for all
- And then so much more on their own...
But before we start...

- **QUESTION:**

- Why do we need such opportunities for our students?

- Take 5 minutes to discuss this with your group of 3
Discovering

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Excites summer camps

- Participate in **summer camps**

Excites summer camps in CS at UTEP:

http://engineering.utep.edu/plaza/excites/index.html
Tours

- Several groups in the CS department give tours
- It depends on availability
- Day-long or half-day long in general
- How?
  - Contact department or faculty
- Example:
  - *General intro to CS*
  - *Programming with robots*
  - *Programming with Scratch, Python, or Kodu*
  - *Intro to cryptography*
  - *Etc.*
IgniteCS (or the like)

- CS students-led introduction to computer science
- For middle-school and high-school students
- At UTEP: ACMW has led this program since its creation by Google (now not driven by Google anymore)
  - They take a school per year usually
- How? Contact me or Dr. Villanueva-Rosales
  - To express interest
Exploring

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Nexus

- Join a **CS research lab** in summer

http://engineering.utep.edu/plaza/Nexus/index.html

- It is a shadowing internship

- In my lab:
  - Intro to programming
  - 2 projects (from pitching to developing, and presenting)
  - Command line training
  - Testing for my lab's research
  - Group presentations
Examples of Nexus Work

- http://cr2g.constraint-solving.com/updates
- http://cr2g.constraint-solving.com/updates/page/2
Research in CS @ UTEP

- Successful research teams in areas as varied as:
  - Architecture
  - Artificial Intelligence
  - Decision Making
  - Computational Sciences
  - Software Engineering
  - Security

  **Funded by** NSF, ARL, DARPA, Army Corps of Engineers, Google, NCWIT, Microsoft, ...

- CyberShare center: interdisciplinary research teams
AI4All

- http://ai-4-all.org
- Currently in development
- Raising awareness and competency in AI for high-school students
- May start next summer
Community Service

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AspireIT

- [link](https://www.ncwit.org/project/aspireit-k-12-outreach-initiative-girls)
- Neer-peer program: led by students
- K-12 outreach initiative for girls
Hour of code

- https://hourofcode.com/us
- Annual program to expose more people to computing
- It can easily be led by students
- https://youtu.be/FC5FbmsH4fw
- It does not have to be during the annual HoC week
Be acknowledged

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NCWIT Aspirations

- [https://www.aspirations.org](https://www.aspirations.org)
- Aspirations in computing
- For high-school young women
- With interest in computing
- Prestigious award: regional and national
- Can enhance a college dossier, even bring scholarships
Are you doing CS already?

- NCWIT Aspirations in Computing is for you!
- Annual competition for High-School girls with interest (and some experience) in computing / technology
- All you have to do: write a few paragraphs about your experience and aspirations (no coding at all)
- Deadline to apply: Early November annually!!!
- Let me know if you are interested for this year: I’m always happy to help
PARTICIPATE

HIGH SCHOOL

- Earn scholarships for college
- Find computing internships
- Connect with a large network of other technical young women
- Discover resources to increase your knowledge of technology
Dive deeper into CS

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Google Internships


- For students about to join a computing-related major in college

- At Google or at an extension program
What to do...

- Take a few minutes and share thoughts with your team about what seems:
  - Most / least attainable
  - Most/ least appealing
There is more...

- Take a few minutes to share with your team:
  - What you think is missing
  - Any other program you’d like to share
Other resources

- https://youtu.be/qYZF6oIztfc
- http://code.org
- https://code.org/learn
- http://scratch.mit.edu
- http://pythonturtle.org

Etc.
Thank you for your attention

- Do you have any question?

- Feel free to contact me at: mceberio@utep.edu