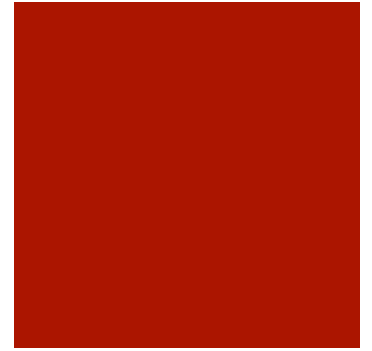


Computer Science Opportunities for Middle and High-School Students

Dr. Martine Ceberio
Associate Professor of Computer Science
August 16, 2018

Welcome to this session

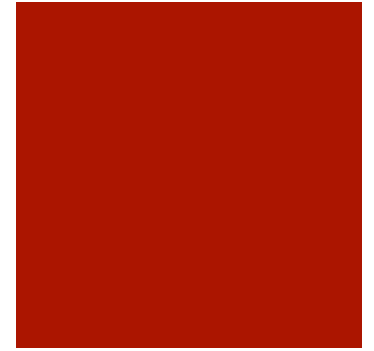
- Let's get to meet each other



Welcome to this session

- Let's get to meet each other
- 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



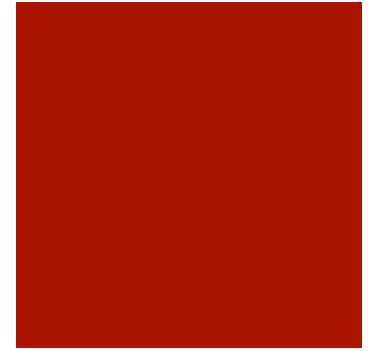
Goal of this session

- 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



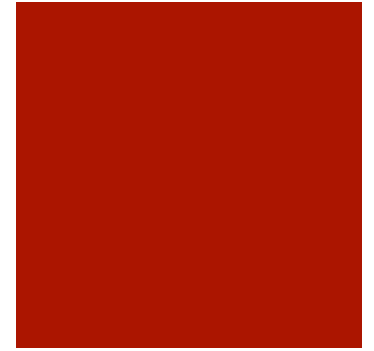
Opportunities

- 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 give them a better view of what they might or might not want to do when they grow up
- In other words: for newcomers 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



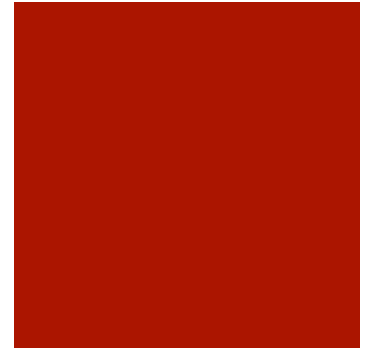
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Excites summer camps

- 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

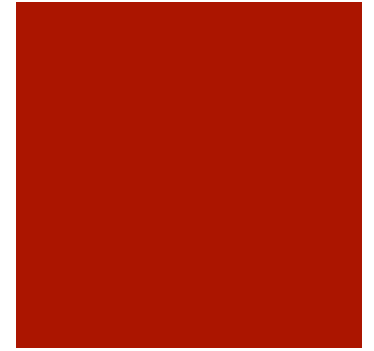
<http://engineering.utep.edu/plaza/Nexus/index.html>

- 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.constraintsolving.com/updates>
- <http://cr2g.constraintsolving.com/updates/page/2>



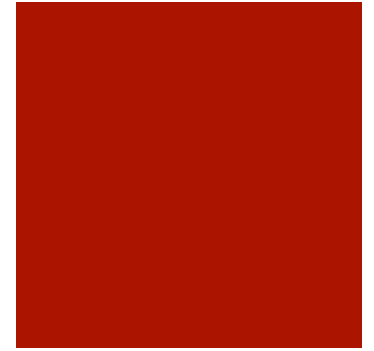
Research in CS @ UTEP



- 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



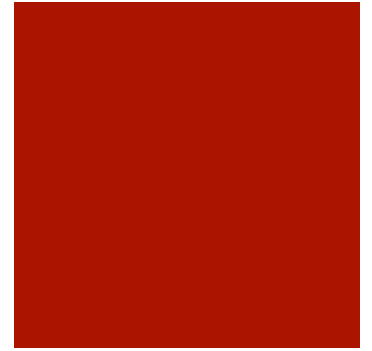
Community Service



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AspireIT

- <https://www.ncwit.org/project/aspireit-k-12-outreach-initiative-girls>
- Neer-peer program: led by students
- K-12 outreach initiative fir 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



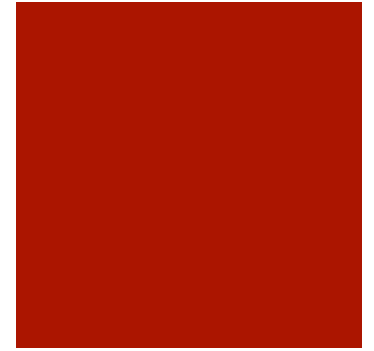
Be acknowledged



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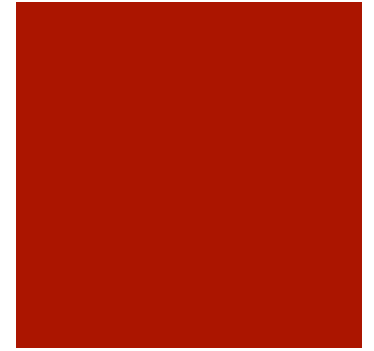
NCWIT Aspirations

- <https://www.aspirations.org>
- 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



- https://buildyourfuture.withgoogle.com/programs/computer-science-summer-institute/#!?detail-content-tabby_activeEl=detail-overview-content
- For students about to join a computing-related major in college
- At Google or at an extension program

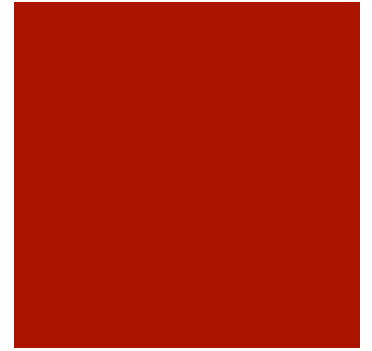
What to do...

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



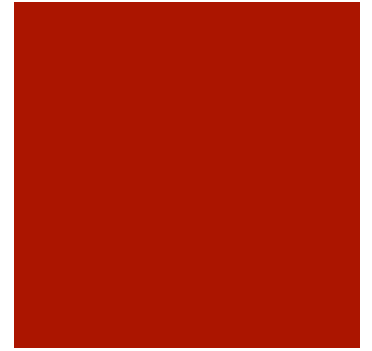
There is more...

- 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/qYZF6olZtfc>
- <http://code.org>
- <https://code.org/learn>
- <http://scratch.mit.edu>
- <https://itunes.apple.com/us/app/hopscotch-learn-to-code-creatively/id617098629?mt=8>
- <http://pythonturtle.org>
- *Etc.*



Thank you for your attention

- Do you have any question?
- Feel free to contact me at: mceberio@utep.edu

