UTSA CS 4593: CS-CURE

Course-based Undergraduate Research Experience in CS

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Spring 2024

Week 10: **Conferences & Journals**

UTSA CS-CURE

Week 10

- Objectives:
    - Understand the publication process in CS
    - Learn from expert(s) in diverse fields within CS

- Deliverables:
    - Guest Lecture Survey (in-class Thursday)

Publishing

Publication Review Process

General overview

1. Paper preparation
2. Review  *More on this in week 12!*
3. Revisions / Rebuttals
4. Notifications

Conferences vs. Journals

Peer-reviewed publication venues

Feature	Conferences	Journals
Frequency	Held annually or bi-annually	Published regularly (monthly, quarterly, etc.)
Paper Length	Shorter (4-10 pages initial work)	Longer (14+ pages, extends initial work)
Turnaround Time	Faster (typically a few months for notification)	Slower (can take up to a year or more for final decision)
Presentation Format	Oral presentations, posters, demonstrations	N/A
Benefits of Participating	Networking, staying current in the field, permanent record	Building reputation, permanent record
Cost	Registration fees, travel expenses (if attending in person)	Author processing charges (for some open-access journals)

Measuring Impact

H-Index, Impact Factor

Metrics attempt to quantify individual researcher productivity as well as the overall impact of a publication source.

- Conferences use **h-index** (*h* publications have at least *h* citations)
- Journals use **impact factor** (# of citations in the last 2 years / # of citable articles published in the previous 2 years)

Journals

In CS

Peer-reviewed publications that archive & disseminate research findings.

Publication process:

1. Manuscript preparation
2. Peer review
3. Revise & resubmit
4. Notification of acceptance
5. Publication

Predatory Journals & Conferences

What to watch out for

Entities that prioritize self-interest and financial gain over scholarly merit and the advancement of knowledge.

Why to avoid them:

- Damage to academic/professional reputation
- Disseminate unreliable information
- Waste time & resources

Predatory Journals & Conferences

What to watch out for

Entities that prioritize self-interest and financial gain over scholarly merit and the advancement of knowledge.

Red flags:

- Guaranteed publication
- Excessive fees (author processing charges, APCs)
- Unusually fast publication turnaround (“*publish in 4 days!*”)
- Unprofessional website/email

Conferences

Types of Conferences

Each has a “proceedings” of publications

- Conferences
    - Flagship - *highly selective*
    - Joint - *two communities on related topics*
- Workshops - *smaller & very focused*
- Symposium - *smaller, localized*

Conference Structure

Most CS conferences consist of some subset of these

- **Presentations**
    - **Keynote talks** - *high-level view of the field and future directions (“big names”)*
    - **Invited talks** - *experts asked to talk about technical topics*
    - **Technical talks** - *researchers present their papers*
- **Poster sessions** - *1-3 hour blocks where researchers present their papers*
- **Workshops** - *a smaller, focused mini-conference at the conference*
- **Tutorials** - *dedicated 2-3 hour courses with labs/hands-on experience*
- **Socials/networking events**
- **Expo halls** - *vendors selling relevant resources*

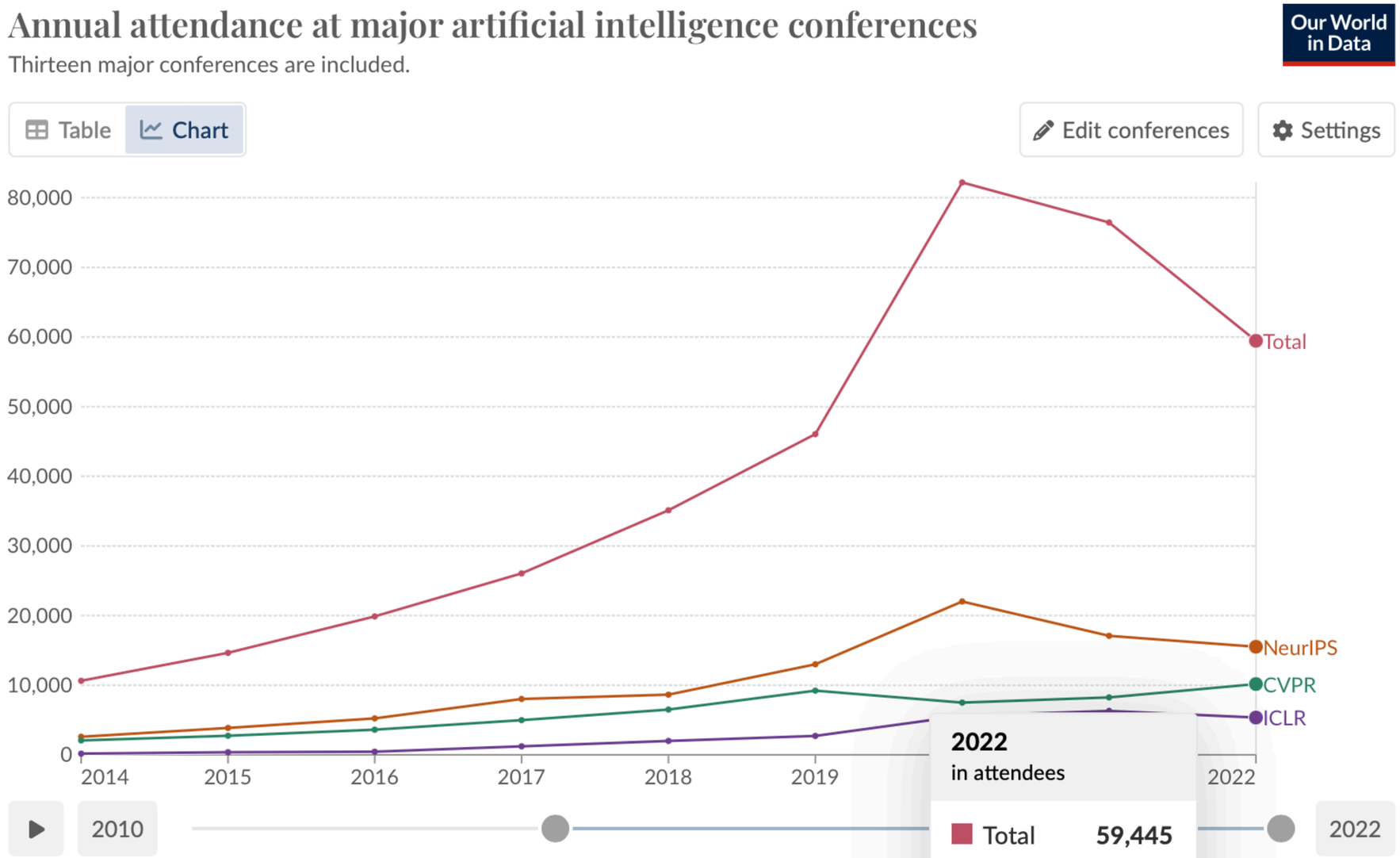
Call for Papers (CFP)

Information

- Important dates
- Topic or theme
- Submission format (*abstracts, full papers, templates)*
- Review process (*including evaluation metrics*)
- Presentation format
- Publication details (*if applicable*)

Annual attendance at major artificial intelligence conferences

Thirteen major conferences are included.



Data source: AI Index (2023) – Learn more about this data

Note: Most conferences in 2020–2021 were held virtually due to the COVID-19 pandemic.

OurWorldInData.org/artificial-intelligence | CC BY

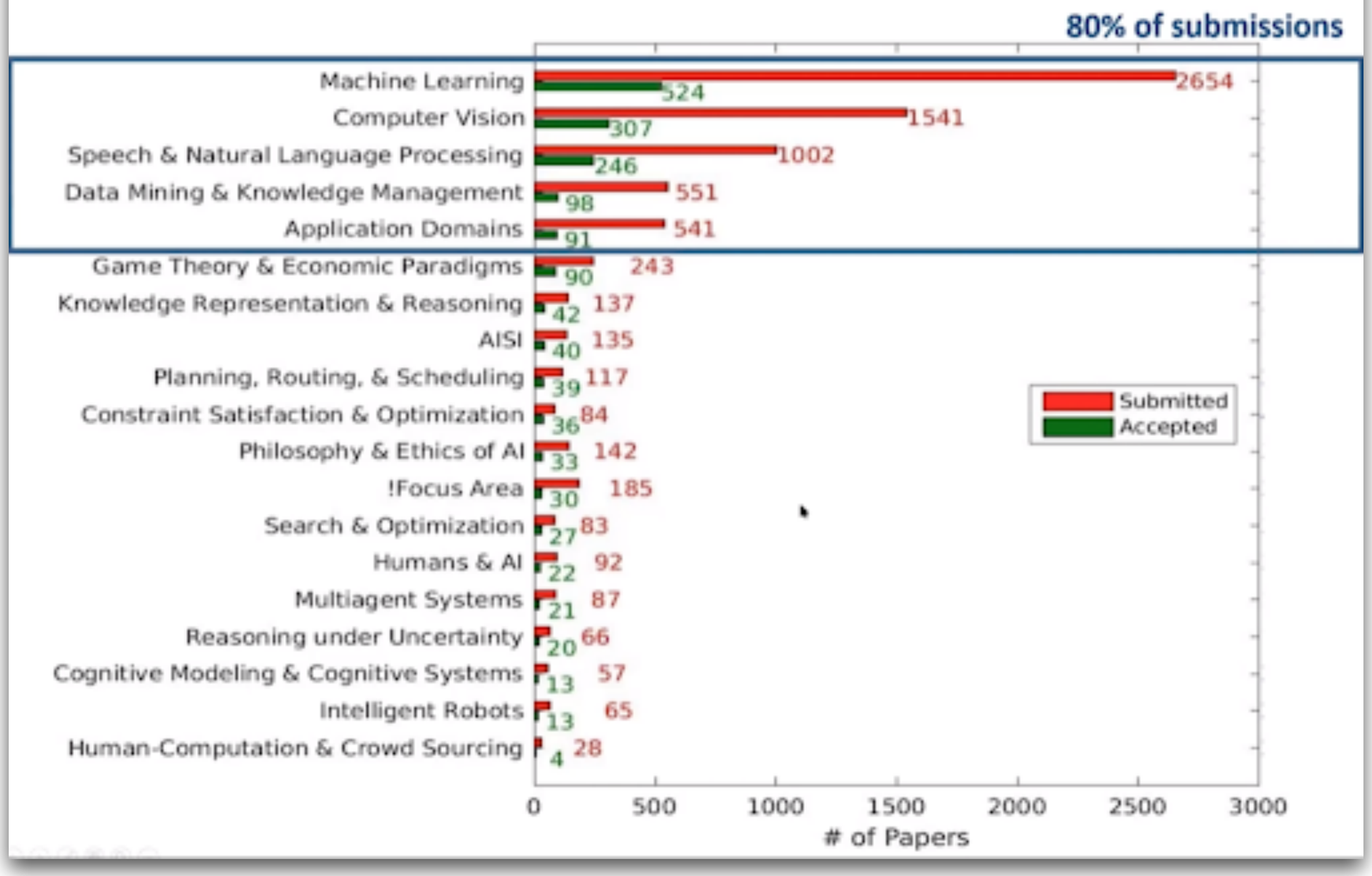
https://ourworldindata.org/grapher/attendance-major-artificial-intelligence-conferences?time=2014..latest

Paper Statistics

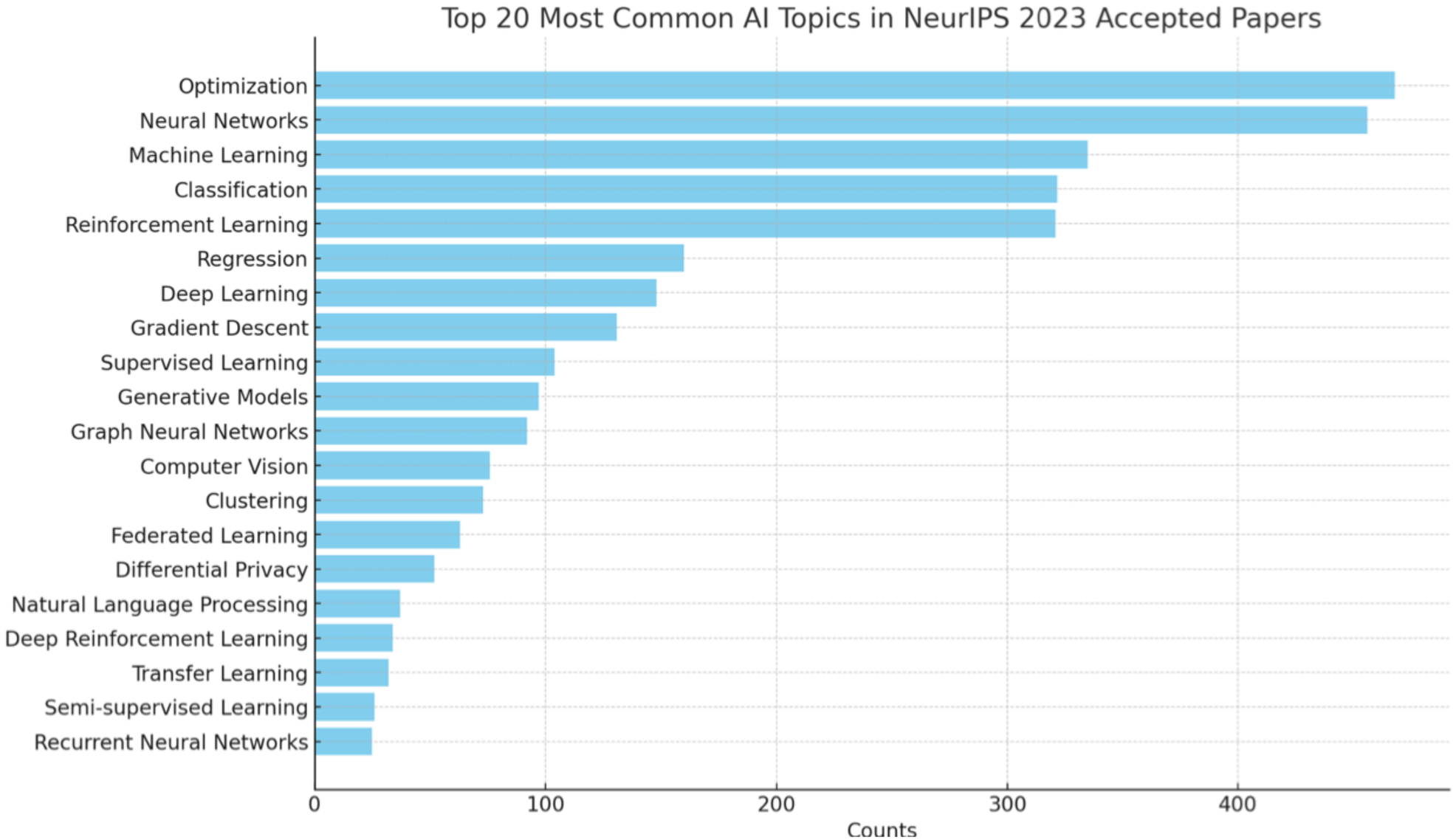
- **5534** abstracts
- **4204** valid full submissions
- 4060 entered the Summary Reject review (144 desk rejected)
- 3063 entered the full-paper review (72.8% of valid submissions)
- 587 accepted
  (**13.9%** of valid submissions; **19.3%** of submissions that received full reviews)

Source: AAAI 2021

Papers by Subject Area



- Paper statistics demonstrate interests of the community
- Specify topics beyond the CFP
- Show trends in topics over time (evaluating one year to the next)



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Source: NeurIPS 2023

Case Study: NeurIPS 2023 conference

Neural Information Processing Systems

Seven conference tracks

- 7 Invited Talks - 6 keynotes, 1 panel
- 58 Workshops
- 14 Tutorials
- 20 Competitions
- 77 Orals
- 9 Socials
- 9 Affinity Group Workshops

Registration numbers:

- Total: 16,382
- In-person registrations: 13,307
- Virtual registrations: 3,075

Source: NeurIPS 2023

Case Study: NeurIPS 2023 conference

Neural Information Processing Systems

Paper acceptance rate:

- 26.1% main conference track
- 32.6% datasets and benchmark

Paper reviews:

- 3,540 total accepted combined papers
- 3,218 main conference track
- 322 datasets and benchmarks track
- 13,330 total submissions
- 12,343 main conference track
- 987 datasets and benchmarks (more than double the previous year's 487 submissions)

Reviewers

- 968 Area Chairs
- 98 Senior Area Chairs
- 12,974 main conference reviewers
- 1,503 datasets and benchmark reviewers
- 396 Ethics reviewers - 502 papers (3.77% of all submissions) were flagged for ethics review, down from 474 papers (4.37% of all submissions) in 2022

Source: NeurIPS 2023

Image source: Wikipedia

How to “Conference”

How to “Conference”

Getting the most out of attending, networking, & presenting

- Before: **make a schedule!**
- Day 1: registration check-in. *Get your badge, familiarize yourself with the venue, attend keynote talks.*
- During sessions:
    - Take notes *only if* it helps you later on - remember, all presentations are published papers! Easier to highlight a title in your schedule & get the paper later on.
    - Ask questions only if pertinent to the talk (*save tangents for the coffee break, especially if it’s “more of a comment than a question”)*

How to “Conference”

Getting the most out of attending, networking, & presenting

- **Logistics**..
  - If attending through a company or university, someone needs to **approve your travel** and book for you.
    - This takes **time**, so start months in advance.
  - Some expenses you have to pay for and be **reimbursed** - *talk to someone if this isn’t an option!*

How to “Conference”

Budget sample

Registration	$800	Typical cost for members
Airfare	$800	Round-trip
Hotel	$1100	$250/day for 4 days + tax
Food (per diem)	$300	$75/day
Transportation	$100	Parking, travel to/from airport
Total	**$3100**	

How to “Conference”

Getting the most out of attending, networking, & presenting

- **What to wear?**
  - Learn about your community (discussion boards, or ask an expert)
  - Some fields are more formal than others (e.g. more business attire at cybersecurity conferences, more jeans at systems meetings)

- **Avoid burnout!**
  - *Pace yourself, you can’t attend every session*
  - *Take breaks if needed, big events can be overwhelming*

How to “Conference”

Getting the most out of attending, networking, & presenting

- **Bringing it back** - presenting what you learned to a peer audience.
    - *Don’t give a play-by-play of what talks you went to on which days*
    - *Do:*
        - Summarize topics of interest at the conference
        - Bullet interesting questions
        - Share your new contacts

Networking

Networking

For computer scientists

Plan to talk to people! Have an elevator pitch ready, and **listen**.

If there's someone you want to meet, contact them before the conference to set up a coffee break or lunch. **Follow up** after the conference with everyone.

Recommended reading:

- "**Taking the Work Out of Networking**" by Karen Wickre
  - *Book, for introverts :)*

Networking

For computer scientists

- Understand that most attendees have an **agenda**!
    - Recruiters
    - Expo hall vendors
    - Students
    - Professors

Networking

For computer scientists

- Understand your agenda
    - Will you be on the job market in the next year or so?
    - Are you looking for collaborators?
    - Are you applying to graduate school?

- Remember that you're representing your institution

Q&A

Wrap-Up

Tuesday

- Understand the publication process in CS
- Learn from expert(s) in diverse fields within CS

- To Do:
    - Guest Lecture Survey (in-class Thursday)

See you Thursday!

Guest Research Lecture:
Dr. Paul Rad

Guest Research Lectures

Questions for experts in the field - ask them anything!

- **About their research..**
    - What challenges did you face during this research, and how did you overcome them?
    - What are the real-world applications of your research?
    - What are the existing approaches to your research work?
- **About their research field..**
    - What emerging trends do you see? What promising new areas?
    - What advice would you give to an undergraduate student interested in this research field?
    - What resources or communities can you recommend?
- **About careers & skills..**
    - What skills do you find important in your field?
    - What was your career path?
    - How do you balance your research with other academic & personal commitments?