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UTD & Computer Science: History

- UT Dallas
  - Founded in 1969; slightly over 50 years old
  - #21 in Times of London ranking of Universities younger than 50
  - #1 in US among Universities younger than 50
  - 30,000+ students: CS the largest department with 5000+ students.
  - Focus on computing, engineering, tech, science & management
- CS @ UT Dallas
  - 1970s: Program founded as part of math sciences
  - 1986: Erik Jonsson School founded with CS + EE
  - Upper division BS CS started late 80s;
  - Lower division added in early 90s
  - Rapid growth in MS population in 80s, 90s and 2000s
  - Significant growth in faculty and PhD population in the 2000s
  - Significant investment through Project Emmit

Computer Science at UTD

- One of the largest departments in the country
  and, also one of the best
- 5000+ students (4000 BS, 1000 MS, 130+ PhD)
- ~50 T/T faculty, ~45 Professor Instruction.
- BS, MS, PhD degrees offered in CS, SE, CE & TE
- 250+ course sections offered each semester
- 800-1000 students graduated each year
- CS Faculty publish in top conferences & journals
- $8-$9 Million in annual research expenditures
- Approx $10 Mn in new funding each year
- 21st in LinkedIn placement ranking
- Highly ranked in csrankings.org

#21 In LinkdIn SW Dev Rankings

1 **Carnegie Mellon University**
Greater Pittsburgh Area
71,500 students & alumni on LinkedIn
See more

2 **Caltech**
Greater Los Angeles Area
20,000 students & alumni on LinkedIn
See more

3 **Cornell University**
Ithaca, New York Area
173,100 students & alumni on LinkedIn
See more

4 **Massachusetts Institute of Technology**
Greater Boston Area
102,500 students & alumni on LinkedIn
See more

5 **Princeton University**
Greater New York City Area
57,500 students & alumni on LinkedIn
See more

6 **University of California, Berkeley**
San Francisco Bay Area
293,500 students & alumni on LinkedIn
See more

7 **University of Washington**
Greater Seattle Area
239,400 students & alumni on LinkedIn
See more

8 **Duke University**
Raleigh-Durham, North Carolina Area
83,300 students & alumni on LinkedIn
See more

9 **University of Michigan**
Greater Detroit Area
247,100 students & alumni on LinkedIn
See more

9 **Stanford University**
San Francisco Bay Area
151,400 students & alumni on LinkedIn
See more

17 **Rice University**
Houston, Texas Area
35,300 students & alumni on LinkedIn
See more

18 **University of Pennsylvania**
Greater Philadelphia Area
125,200 students & alumni on LinkedIn
See more

19 **University of Arizona**
Tucson, Arizona Area
151,400 students & alumni on LinkedIn
See more

20 **Harvey Mudd College**
Greater Los Angeles Area
5,300 students & alumni on LinkedIn
See more

21 **The University of Texas at Dallas**
Dallas/Fort Worth Area
61,400 students & alumni on LinkedIn
See more

Areas of Research

- Wide variety of research areas covered:
  - Cyber Security
  - Computer Systems
  - Software Engineering
  - Intelligent Systems
  - Computer Science Theory
  - Computer Networking
- Strategic areas of focus:
  - Machine Learning, Data Science, Cyber Security
- Focus on Interdisciplinary/Multidisciplinary research
  - Computing Theory: Medical Image Proc., Comp. Bio., Mathematics
  - Computer Systems: Medicine, Rehabilitation, Image Proc., Art & Tech.
  - Cyber Security: Mgmt and Math Sci (risk management), political sci.
  - Intelligent Systems: Medicine, Speech processing

CS Department: Centers & Institutes

CSI

Net-Centric

UT-D)))SC

- Cyber Security Education & Research Institute (CSERI)
  (Director: Dr. Thuraisingham)
- Human Language Technology Institute (HLTRI)
  (Director: Dr. Sanda Harabagiu)
- Inst. for Interactive & Spatial Computing (UT DIISC)
  (Director: Dr. B. Prabhakaran)
- Institute for Data Analytics (IDA)
  (Director: Dr. Ron Bose)
- Net-centric Software Center
  (Director: Dr. Farokh Bastani)
- Center for Software Testing
  (Director: Dr. Eric Wong)
- iPerform: Center for Assistive Technology
  (Director: Dr. Ovidiu Daescu)
- Center for CS Education and Outreach
  (Director: Dr. Jey Veerasamy)
- Center for Applied AI and Machine Learning
  (Director: Dr. Doug DeGroot)

Great Progress Continues …

- Undergraduate education – new programs
- Graduate education – new tracks, increased applicant numbers, stronger applicants
- Research – increase in external funding,
- Community Outreach – significant expansion, largest program in the nation
- Industry Interaction – significant increase
- Faculty hiring – outstanding hires (T/T & SLs)
- Marketing – campaign launched, new website

CS Undergraduate Programs

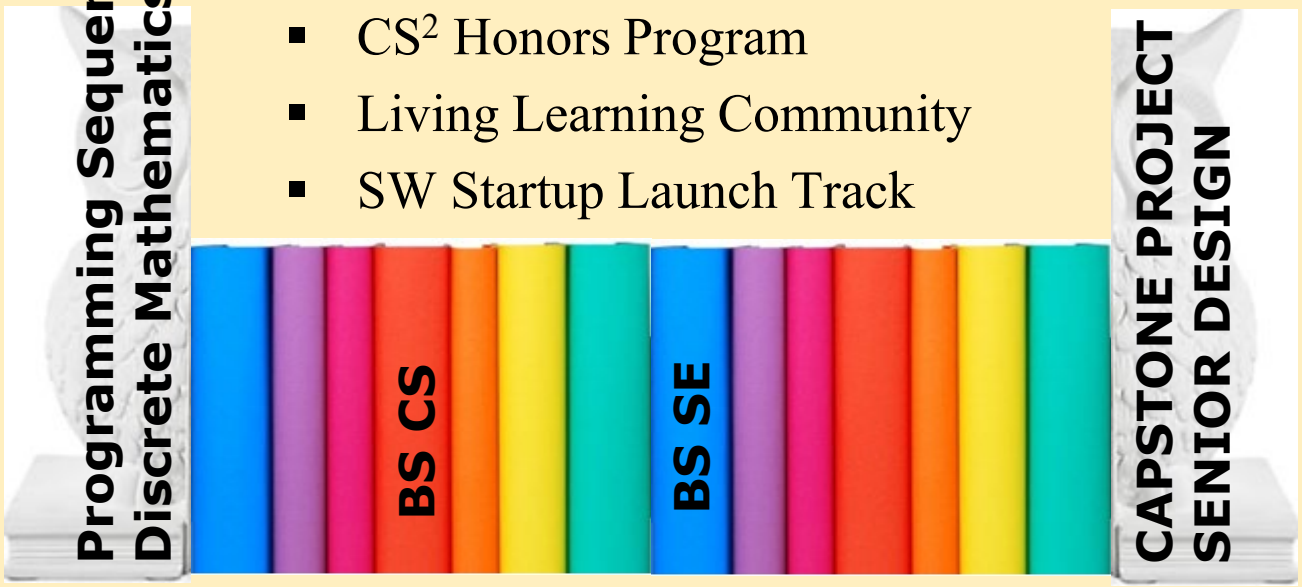
- BS in CS, SW Engg and Computer Engg
  - Faculty are heavily focused on YOUR success
- Many innovations to make us the best in the nation:
  - Freshman Experience (CS 1200, CS 1100, UNIV 1010)
  - CS^2 Honors Program
  - Living Learning Community
  - CS Freshman Experience
  - Computer Science Mentor Center
  - UT Design Capstone Project Program
  - Industry Internships
  - Undergraduate Research
  - Student Clubs
  - Programming Competitions & Hackathons
  - K-12 Outreach

UT Dallas CS Programs

- **CS Computing Scholars (CS^2) program:**
  - Gifted Freshman CS students are *invited* to join this program (need to pass an exam)
  - Taught in a cohort of 30 max, by some of our best teachers
  - Scholars have their own lounge/lab
  - Many activities organized, and mentoring provided
- **Living Learning Community:**
  - CS/SE majors can be part of the living learning community in newly built on-campus residence halls;
  - Year-round activities involving faculty are organized
    - Hackathon
    - Faculty Game Night

CS Dept Undergraduate Programs

- CS Freshman Experience class
- CS^2 Honors Program
- Living Learning Community
- SW Startup Launch Track



CS MENTOR Ctr

- Industry Internships
- Undergraduate Research
- Student Clubs (nearly 10)

UTDESIGN

- Prog. Competitions, Hackathons
- Competitive programming team
- K-12 Outreach

UT Dallas CS Programs

- **Mentoring and Tutoring: CS Mentor Center**
  - Computer programming and Discrete Mathematics are foundations of computer science and software engineering
  - Round the clock tutoring and mentoring facilities provided to ensure students have adequate help outside the class.
  - Timings: 11:30am – 10pm (reduced hours on Fri, Sat, Sun)

- **UT Design Capstone Project Program**
  - Every senior completes a capstone team-project
  - Almost all capstone projects are industry sponsored
  - Great chance for students to gain practical experience

UT Dallas CS Programs

- **Undergraduate Research**
  - Academically gifted students are expected to do research in their junior and senior year
  - Faculty advisors work with students to place them in appropriate faculty members' labs
  - Watch out for announcements for speed matching events
- **Industry Internships**
  - UT Dallas is located in an area that is home to hundreds of hightech companies (TI, Ericsson, Fujitsu, Samsun, JCP, …).
  - Large no. of internship opportunities exist for CS students
  - Visit the Internship Office; Read weekly emails
  - Attend the Pathways to Internship series to gain skills

UT Dallas CS Programs

- **Student Clubs**
  - Organized under the student chapter of the Association for Computing Machinery.
  - Many more student clubs, organized as special interest groups under student ACM exist:
    - ✓Linux Users' Group
    - ✓Computer Security Group
    - ✓Women Who Compute
    - ✓Open Source Community
    - ✓Android Developer Group
    - ✓UTD Hackers
    - ✓AI Society
    - ✓Codeburners
    - ✓Codewarmers
    - ✓UX Club
    - ✓Virtual Reality Society

visit utdacm.com

UT Dallas CS Programs

- **Programming competitions**
  - There are many active groups that meet every so often to work on competitive programming problems.
    - ✓ Codeburners group: experts focused on advanced problem solving
    - ✓ Codewarmers group: beginners interested in competitive programming
  - Competitive Programming Team: Coached by Faculty member
- **K-12 Outreach**
  - UT Dallas Computer Science Department runs one of the largest university-based K-12 computer science outreach program in the nation (visit http://www.utdallas.edu/k12).
  - Students can join as a paid instructor or volunteer to help our outreach efforts

Job Opportunities for CS/SE Graduates

- Our program emphasizes depth of technical knowledge in Computer Science
- Emphasis on both theory and practice:
  -- Algorithms/Automata (theory) and Data-structure, OS, Databases (practice) are required classes
  -- significant theory and programming component in all courses, so that you become a *better computer scientist*

Computer Scientist vs. Programmer

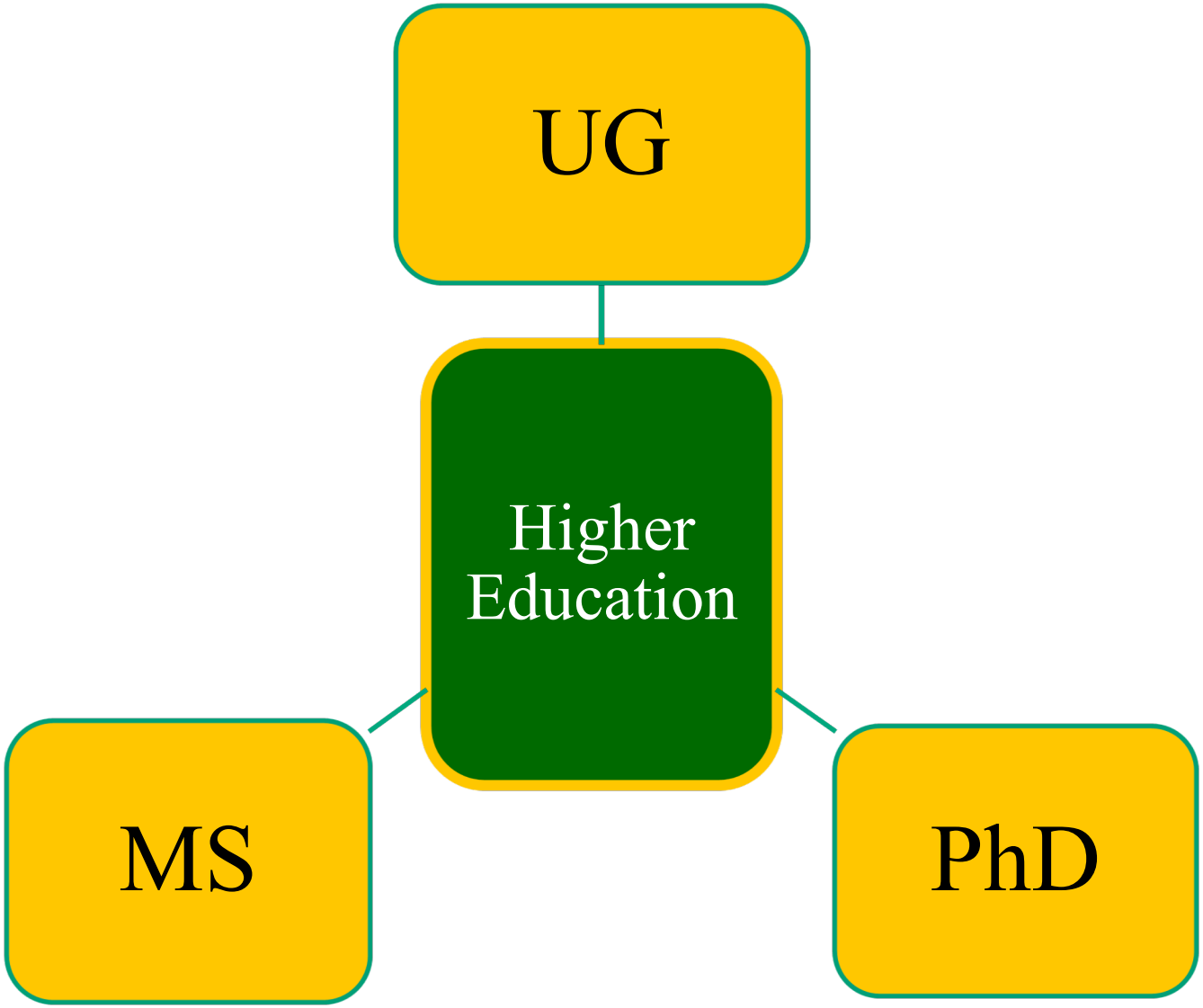
- As a result, UTD CS is a favored destination for top technology companies: Microsoft, Amazon, Intel, IBM, Ericsson, ..
- Our graduates work in almost every company you can think of, many of them have even started successful companies

Job Opportunities for CS/SE Graduates

- From a manufacturing economy to an information economy
- More things become automated, more and more software engineers needed
- With the Web and Mobile Apps becoming more pervasive, more people needed to develop them
- Recent survey: Large number of our graduates had jobs (or admission to graduate school)
- This automation and pervasiveness of the Web will continue to increase: **THE FUTURE FOR CS/SE IS EVEN BETTER**
- Our graduates make excellent salaries:

$$$$$$

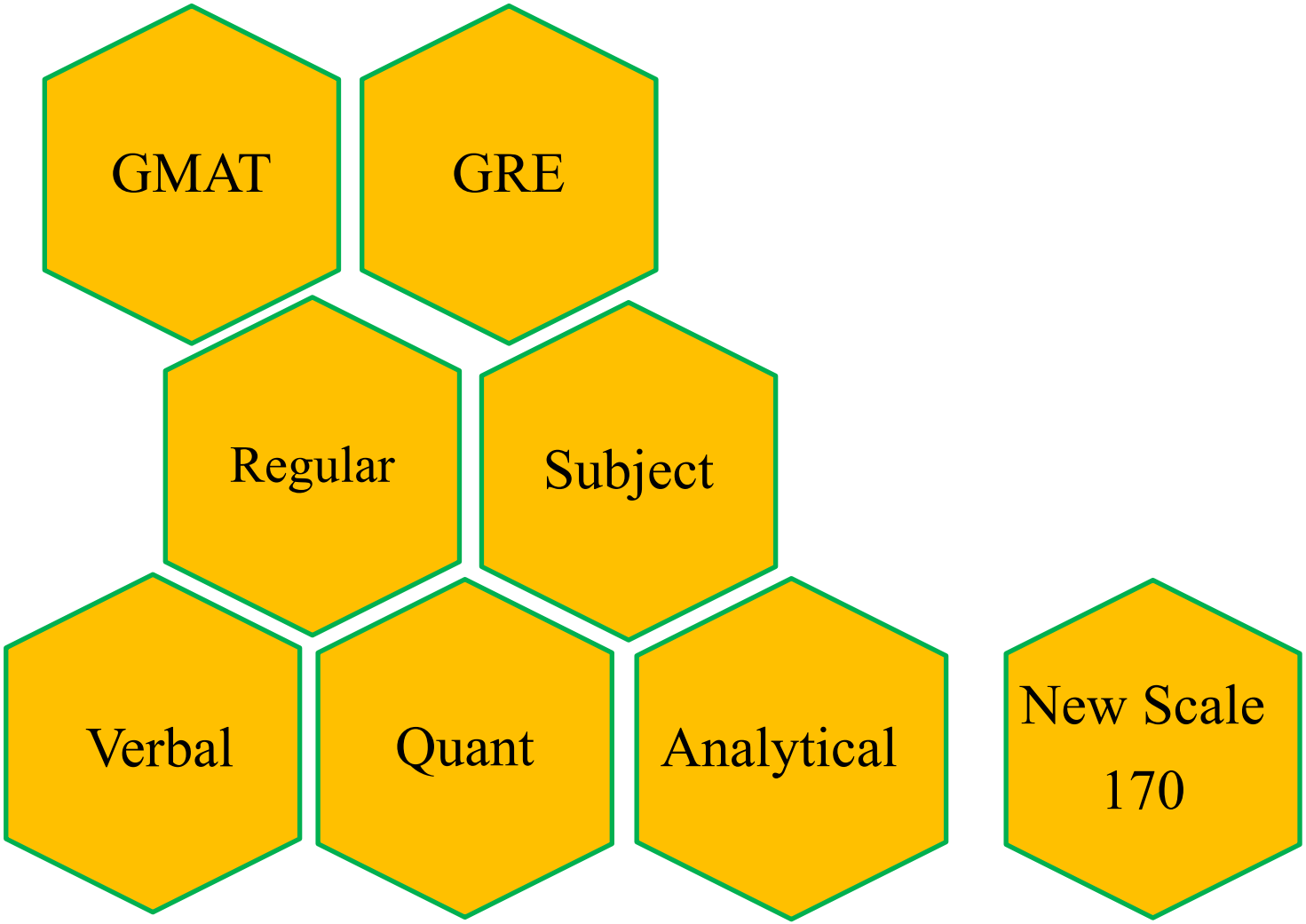
Higher Education



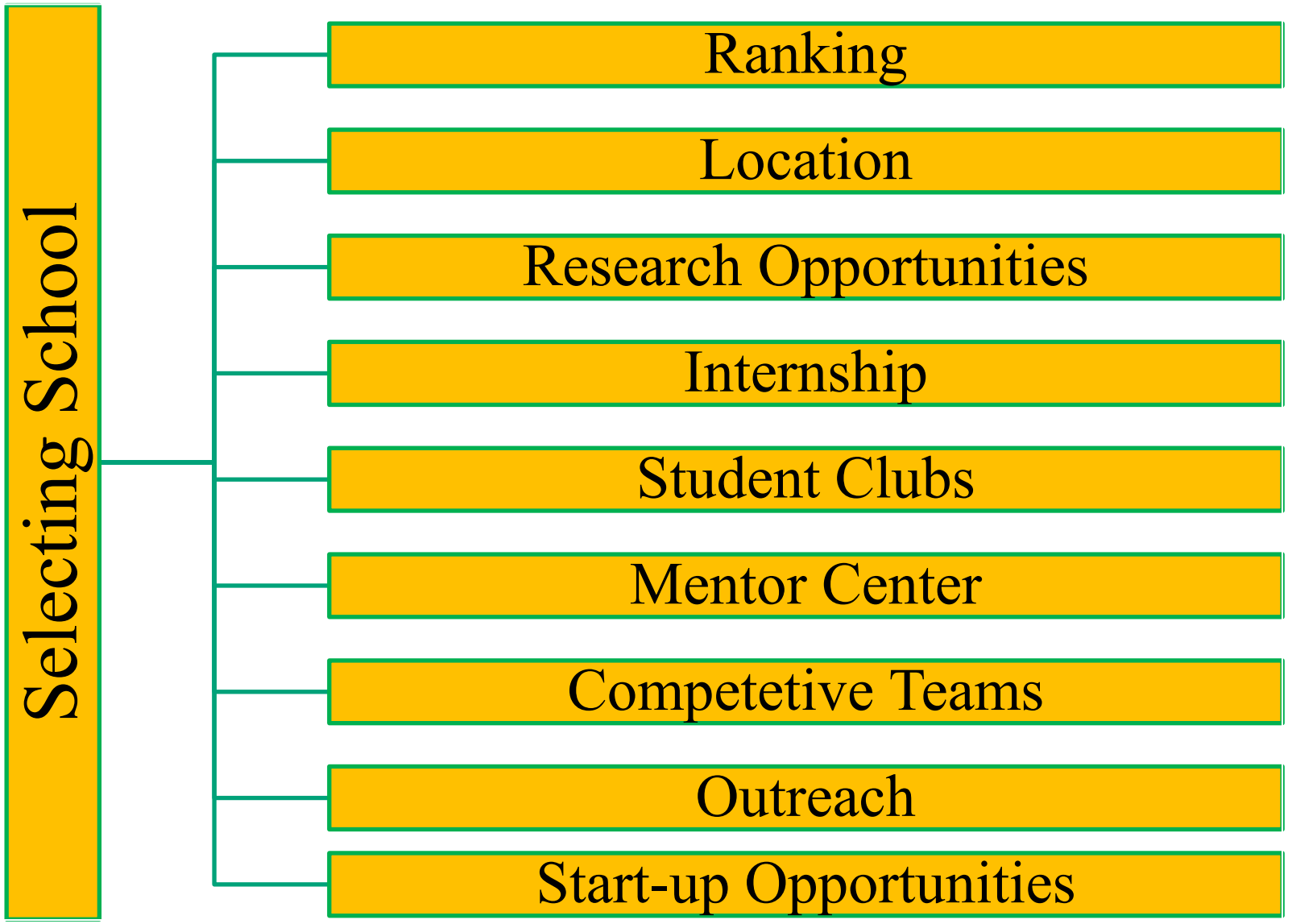
Graduate School

- When to start the Spade Work
- Selecting school
- Selecting Major
- Application Process
- Statement of Purpose
- Letters of Recommendation
- Deadlines (important)

Standardized Test



Graduate School



Graduate School

Application Process

- How many Schools to apply
- Groundwork
- Faculty
- Emails
- Deadlines
- Follow-up

Statement of Purpose

- A page or two essay describing your career goals
- How your background prepared you for the future
- Your academic goals must align with current research at the department you plan to apply
- Connect with professors in the department
  - Identify potential advisors. Can be rewarding….

Letters of Recommendation

- Important Component in the application packet
- Carefully select your recommenders
- Choose a faculty who can speak directly about your graduate school capability
- Must have taken classes with the faculty and have excelled
- Prepare well in advance before approaching

Graduate School

Financial Aid

- TA – Generally Needs No Application
- RA – May have to the Contact Professors Directly
- scholarships – Generally in Fall semester
- Fellowships and Other scholarships

Why did we invite you?

Why did we invite you?

We want you … for our Ph.D. program!

Why do you want to get a Ph.D.?

1. Ph.D. is "license to do research"
2. But one can be professionally successful without a Ph.D.
3. Rather, one gets Ph.D. because they love to do research, invent new things, and see how your work can be applied by the scientific community. (If you're successfull, you will also get the recognition of the community.)
4. It may also put you ahead of other engineers and computer scientists in terms of salary/promotion.

Why UTD/CS? – Some Highlights

- We are located in the middle of the Dallas area's high-tech hub, surrounded by hundreds of software, hardware and telecom companies.
- Our graduates are sought after by major software and telecom companies such as Amazon, Google, Meta, Microsoft, IBM, Qualcomm, Ericsson, and VMware. These companies hire our students as interns and full-time employees
- Our graduate students are highly regarded for their deep technical knowledge. Our graduates are well-prepared to take on academic research and teaching positions.
- We encourage entrepreneurship among our students by introducing entrepreneurship education into our programs. Some of our graduates have founded successful companies.

Why UTD/CS? – Some Highlights

But most importantly:

- Very active research program, with more than $9 million in research expenditures and new funding.
- We are an exceptional set of faculty members doing exceptional research in the frontiers of computer science.
- You will find working with us: exciting, educational, rewarding, and enjoyable.
- Our students are wonderful young future researchers who are poised to make the difference the state-of-the-art of computer-related technologies. You will be delighted to be their peers.

Timeline

- **Year 1**: Coursework; qualifying exams; explore research areas; find a research adviser
- **Year 2**: Read papers; identify a problem to work on; start working on research
- **Year 3**: Form dissertation committee; complete thesis proposal; perform preliminary research; start publishing papers
- **Year 4**: Work on research; continue publishing papers
- **Year 5+**: Write and defend dissertation; look for a job

Admissions

Admissions Criteria :A student may be admitted under two possible options:

- A Master's degree in computer science or its equivalent, and a GPA of at least 3.5, and GRE revised scores of at least 310, 153, 157, and 4 for the combined, verbal, quantitative, and analytical writing components, respectively, are advisable based on our experience with student success in the program; or
- A B.S. in related area that includes two semesters of calculus and linear algebra with a GPA of at least 3.5 in the last 60 hours, and GRE revised scores of at least 315, 153, 162, and 4 for the combined, verbal, quantitative, and analytical writing components, respectively, are advisable based on our experience with student success in the program.

Any Questions?

Thanks

Visit:

cs.utdallas.edu/news/

for more info

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