Undergraduate Research

• Office of Undergraduate Research
  https://our.uky.edu/
  https://foragerone.com/profile/249100

• Talk with faculty
  - Identify faculty by WWW pages, etc.
  - Talk with more than one
  - Don’t overcommit!
Undergraduate Research

• Modes
  - Volunteer
  - Some clubs, e.g., solar car
  - EE395: 1-6 credit independent study
  - EE595: 1-3 credit independent problems
  - EE490/491: 3+3 credit ECE capstone
  - Hourly paid research assistant…
    especially Summer REUs
Events like Build Parties

July 16, 2003
Building KASY0
(Kay-See-Zero)
Some Undergrad Research Done In My Lab
Why Graduate School?

- Salary (from ComputerScience.Org)?
  BS: $92K, MS: $103K, PhD: $131K

- Employability; job options?
Why Graduate School?

- Salary (from ComputerScience.Org)?
  BS: $92K, MS: $103K, PhD: $131K

- Employability; job options?

- You really want to do it.
When Graduate School?

• Overlapping undergrad
  GPA 3.5 major, 3.2 overall; 90 credits; no GRE
  University Scholars Program
  https://gradschool.uky.edu/university-scholars-program

• Immediately after undergrad

• Later, after working for a while
  - Going back to school full time
  - Part-time, ideally paid by work
Graduate Degrees

• As computer engineers, you have options:
  CPE MS/PhD:  https://www.engr.uky.edu/computer-engineering
  CS MS/PhD:  https://www.engr.uky.edu/computer-science
  EE MS/PhD:  https://www.uky.edu/academics/masters-doctoral/electrical-engineering-graduate

Data Science MS:  https://www.engr.uky.edu/data-science
Almost anything else…

• ~24-30 credits to MS, ~42 to PhD
Research in Graduate Degrees

• **PhD** requires a *thesis* or *dissertation*: new and significant advance of state-of-the-art formally written and defended

• **MS** generally requires either:
  - Thesis *formally written and defended*
  - Project *informally written and defended*
  - Course-only MS generally isn’t done here...
Other Options?

- **Undergrad degree++?**
  - **Minor**: e.g., CS minor is 20 credits
  - **Certificates**: e.g., Cybersecurity
    https://www.engr.uky.edu/research-faculty/departments/electrical-computer-engineering/students/undergraduate/undergraduate
  - **Certificates**:
  - **Double major**: one diploma, two majors listed
  - **Dual major**: two diplomas, major +24 credits (e.g., dual CPE+EE is 152 credits, not 128)

- **CPE is almost a double major EE+CS**