

# The CSE Ph.D. Program at The University of Michigan

As seen by Austin/Bertacco Lab...

*Andrew McCrabb*  
*Updated: 2021.3.5*

# Austin/Bertacco Lab

(AB-Lab as of March 2021)



**Fitsum Andargie**  
*Post-doc*



**Lauren Biernacki**  
*4th Year*



**Shibo Chen**  
*2nd Year*



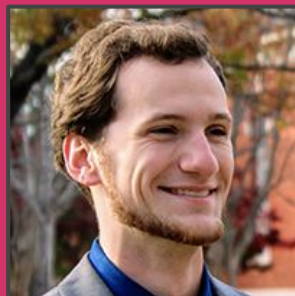
**Pete Ehrett**  
*5th Year*



**Yonathan Fisseha**  
*1st Year*



**Vidushi Goyal**  
*5th Year*



**Andrew McCrabb**  
*4th Year*



**Rehab Massoud**  
*Post-doc*



**Sarah Van Cleve**  
*Engl. Lang. & Lit.*



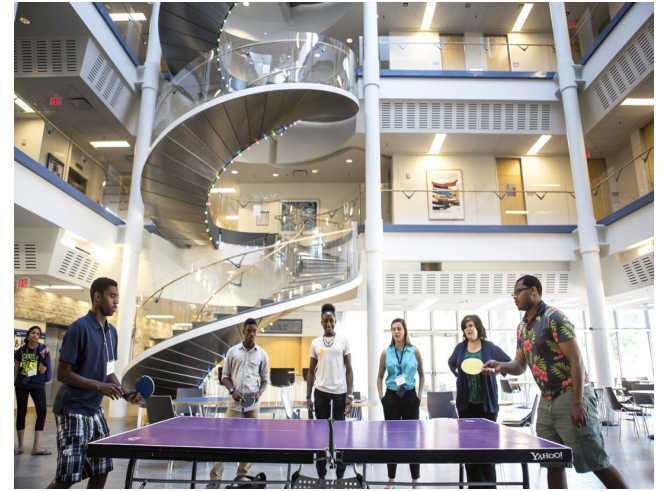
**Taru Verma**  
*2nd Year*



**Nicholas Wendt**  
*2nd Year*

# Michigan CSE PhD Basics

83 Professors (15+ Hardware Professors)  
~240 PhD Students  
Bob and Betty Beyster building (BBB)



# PhD Goals

- Meaningfully extend the body of knowledge in CSE via original research
- Become the world's foremost expert in the narrow topic of your dissertation
- Enter as a student; leave as a colleague

**The big challenge:** You are working on problems whose answer nobody knows!



# PhD Timeline

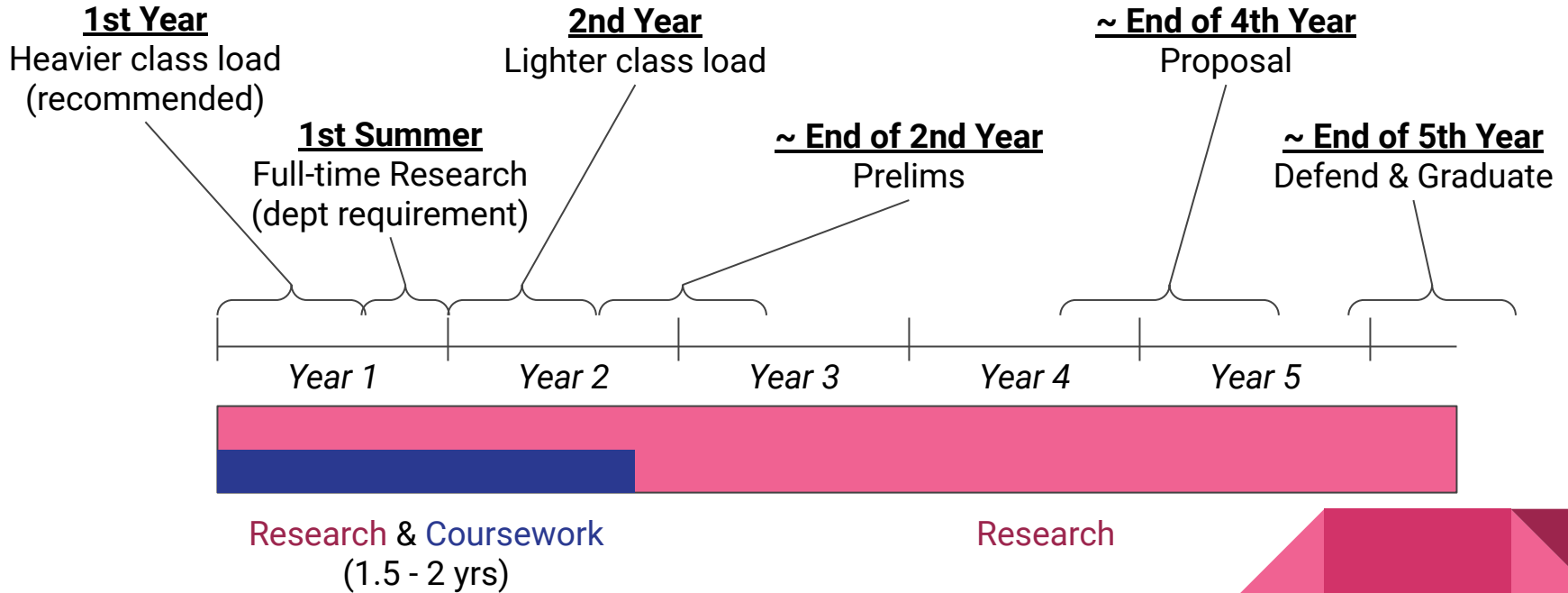
- 1st Year - Coursework + Research
- 1st Summer - Research
- 2nd Year - Lighter coursework + More Research + Prelims
- 3rd & 4th Year - Research
- End of 4th Year(ish) - Proposal (60-80% of research work done)
- About a Year Later - Defense and Graduation!

*This is theoretical.*

*The actual timeline varies widely based on many factors.*



# PhD Timeline



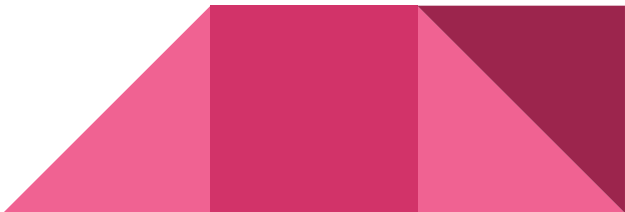
*Again, this is theoretical.*

# Prelim Exam

Must present original research project to faculty panel (No Written Test)

- 3 faculty selected by grad committee (not your advisor)
- Directed study report
- ~40 minute presentation
- ~20-40 minute Q&A

## Deadlines

- Joined program w/o MS: 4 semesters
  - Already have an MS: 3 semesters
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# Choosing an Advisor

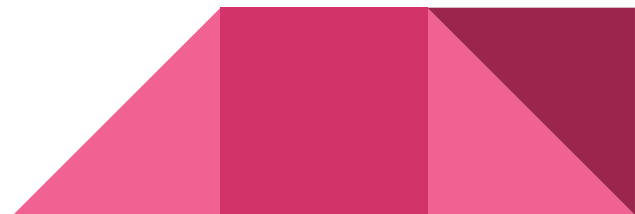
- Earlier is Better!
  - Possibility of coming during the previous summer
- Exploring UMich CSE Faculty:
  - Visit Faculty webpages (beware: not all are up-to-date though)
  - Find their recent research publications
  - Contact graduate students
- Work on a mutually-interesting research topic





# General Goals and Advice

- Start early on research - that's the critical path to graduation!
- Don't be afraid to ask questions. Collaborate with labmates and others!
- Do Hardware courses first to get preliminary research experience in-class
- Research direction is flexible at the beginning... focused towards the end.
- Continuous progress (even if slower) is essential
- Remember: the goal is to advance the CSE field in your area of expertise.



# PhD Coursework


- Breadth Coursework
  - 3 courses in 3 different areas (HW, SW, Intel Sys, Theory)
  - B+ or better
- Depth Coursework
  - Any 2 courses on Depth list; at least 1 must be “starred”
  - A- or better
- Rackham Cognate (3-4 grad credits outside CSE)
- Some more credits, including some independent study

***COURSEWORK IS NEVER THE CRITICAL PATH TO GRADUATION!***

See [CSE Program Guide](#) for more info

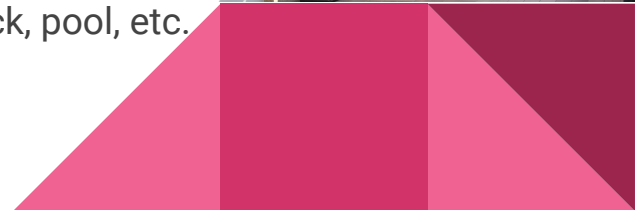


# Life as a Michigan CSE PhD Student

- First year has long working hours
    - Courses take time
    - Projects are interesting, relevant, and can often connect to your research
  - After classes are done, work schedule is very flexible
    - Usually 6-9 hours / day
    - 10-14 hours when approaching major deadlines (infrequent... couple times a year at most)
    - Working remotely occasionally is not a problem. Just make sure you attend your meetings.
  - CSEG, Reading Groups, Weekly Social Hours, Workshops, Career Fairs, Academic Lecturers
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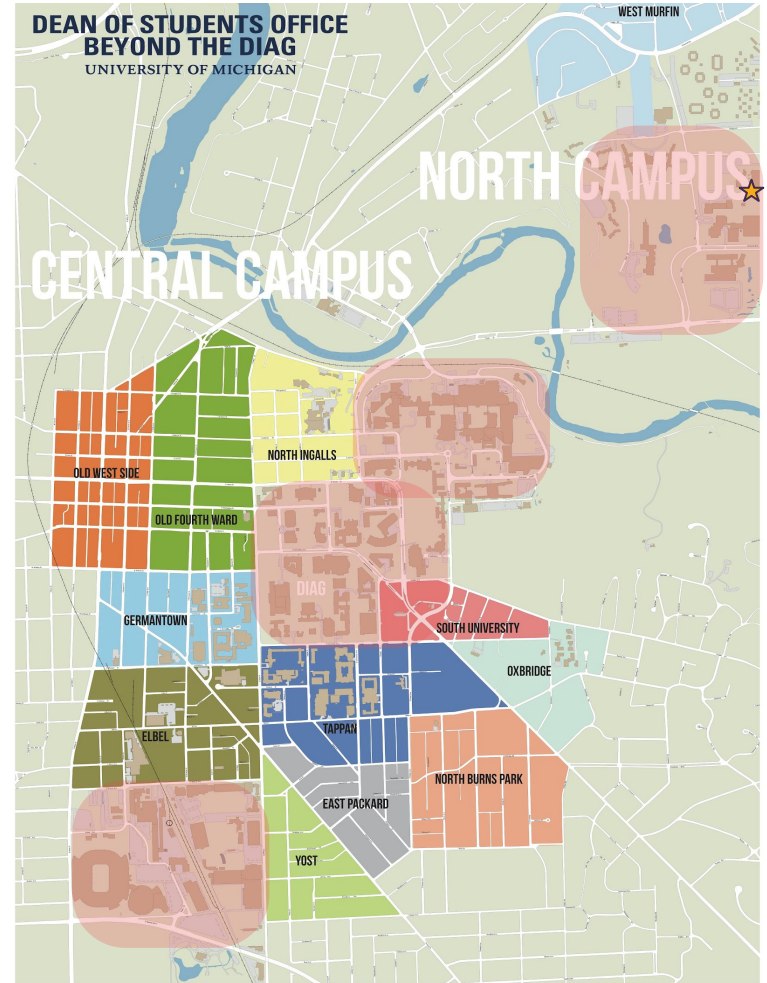
# Lay of the Land: North Campus

- Engineering, Architecture, Music/Theater/Dance
- Duderstadt Library
  - Coffee Shop
  - 3D Printing / Recording Studios / Poster Shop / VR Lab / etc.
  - CVGA - Computer and Video Game Archive
- Pierpont Commons
  - Dining Options, Pool Table
- North Campus Rec Building
  - Basketball, volleyball, wallyball, weight machines, running track, pool, etc.
  - Renovated a few years ago



# Lay of the Land

- North Campus
  - Engineering+
- Medical Center
- Central Campus
  - ~7-10 min bus
- Athletic Complexes



# Other UM Things

- Many Sports to Watch (lots of Big 10 Championships)
- 1,600+ Student Orgs
- 97 Grad Programs are Top 10
- 20+ Intramural Sports
- Top 10 for LGBTQ+
- #1 Entrepreneurship Program



# Living in Ann Arbor (A2)

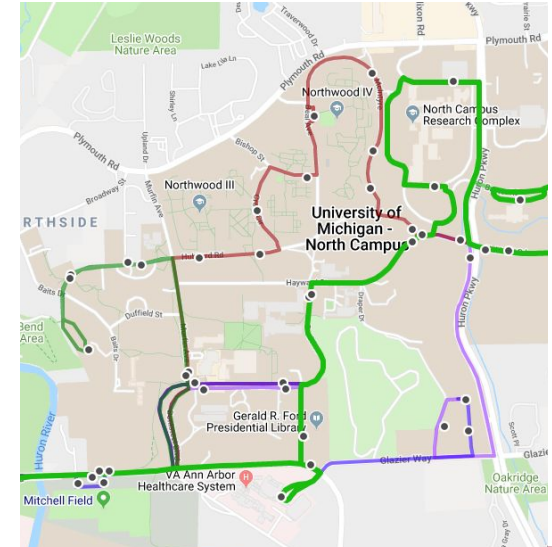
	<b>North</b> <i>Off-campus Apartment</i>	<b>North</b> <i>Northwood Grad Student Housing</i>	<b>Medical</b> <i>Apartment</i>	<b>Farther</b> <i>West Ann Arbor</i>
<b>Layout</b>	1 Bed / 1 Bath <i>No roommates, the joy of living alone...</i>	2 Bed / 1 Bath <i>1 roommate, assigned</i>	2 Bed / 1 Bath <i>1 roommate, 1 cat</i>	2 Bed / 1 Bath <i>Duplex</i>
<b>Cost PP</b>	\$1,100 + <i>util.</i>	~\$700pp	\$700 + <i>util.</i>	~\$800pp + <i>util.</i>
<b>Commute</b>	15 min ( <i>walk</i> )	10-15 min walk ( <i>varies widely</i> )	20 min ( <i>walk+bus</i> )	15-20 min ( <i>by car</i> )

Data from 2021

Links: [On-campus grad housing rates](#) & [Parking Permits](#)

# Transportation in Ann Arbor (A2)

- Light traffic / Good Public Transit
  - Car is helpful but not essential in A2.
- UMich Blue Bus and AAATA City Bus
  - Reliable & free (for students)
- Also available: Uber, Lyft, ZipCar





# Transportation out of Ann Arbor (Pre-COVID)

- Detroit Airport (DTW) - Delta Hub
  - 35 min by car
  - \$12 AAATA bus from Central Campus (Michigan Flyer)
- Amtrak Train: direct to Detroit & Chicago
- Nearby cities to visit:
  - 1hr by car: Detroit
  - 3hr by car: Cleveland, Columbus
  - 4hr by car: Cincinnati, Chicago, Indianapolis
  - 5hr by car: Toronto
- New: Express bus to downtown Detroit every hour
  - [D2A2.com](http://D2A2.com)



# Helpful Links

[Support for 1st Year Students](#)

[CSE Program Guide](#)

[ADA Center Website](#)

