# Graduate School What I Wish I Knew in Third Year

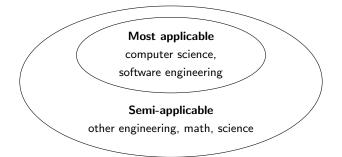
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#### What This Presentation Is About

- What I wish I knew in third year
- What I learned since third year



# My Experiences

#### Research experiences:

- Undergrad: Co-op, URA, Capstone
- Now a graduate student in computer science



# My Experiences

#### Industry experiences:

- Telecommunications, web development startup
- Most recently: Visual C++ compiler at Microsoft



## Course-based Degree

- ▶ Pay tuition and take courses (consume knowledge)
- Examples: law school, med school, MBA, MMath, MEng

## Research-based Degree

- ▶ Paid to do research (produce new knowledge)
- Examples: MMath, MASc, PhD
- ► See also Matt Might's illustrated guide to a Ph.D.

After this point, "graduate school" refers to research.

#### Reasons for Graduate School

#### Philip Guo offers three practical reasons:

- Make a name for yourself
- ► Fail in a safe environment
- Choose from more jobs

In other words, "trade money for freedom."

#### Make a Name for Yourself

- ► Formulate, execute, and sell your ideas
- ► Entire process from start to finish, on your own

#### Fail in a Safe Environment

- ▶ Failure is an opportunity for growth
- ► Failure can inspire grit, tenacity, and perseverance
- Expected to fail repeatedly, without hurting career

#### Choose From More Jobs

- ► Co-op experiences makes us very employable at graduation
- ► A PhD can open even more opportunities
  - Corporate research, academic research, teaching

Trade money for freedom.

## Reasons Against Graduate School

You might not want to consider graduate school if you:

- like working in industry
- find it important to make a good salary now

Graduate school might not result in a higher salary later, either.

# Job Application for a Research Position

- Apply 1 year before expected start
- ► Publications (research experience)
- Potential (to do research)
- Other qualities:
  - ► Perseverance, tenacity, cogency

### Research Experience

- Work with different professors
- Opportunities:
  - ► Co-op, URA, Capstone, SE 499

#### Letters of Recommendation

- ▶ Need 2–3 letters
- Strong, academic references
  - Professor you've done research with
- "Course" letter
  - Professor whose course you excelled in
- Industry letter
  - Demonstrated qualities appropriate for research
  - Some programs won't accept these letters

#### Personal Statement

- Convince admissions committee that you are a strong candidate
- ▶ Describe your research experience and interests

# Other Application Materials

- Resume
- Grades
  - May or may not be a cutoff
- Graduate Record Examinations (GREs)
  - Standardized test (similar to SATs)
  - ▶ For US schools

## Summary

- What is graduate school?
  - ▶ A job to do research: produce new knowledge
- Reasons for graduate school?
  - Make a name for yourself, fail in a safe environment, choose from more jobs
- ▶ How to apply to graduate school?
  - Get research experience, which gets you essay material and letters

# Further Reading

- ► Applying to Ph.D. Programs in Computer Science
- ► The Ph.D. Grind
- ► Matt Might's blog
- ► Philip Guo's articles