

# From An Engineer To A Doctor

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(IIT-K, Batch of 2005)



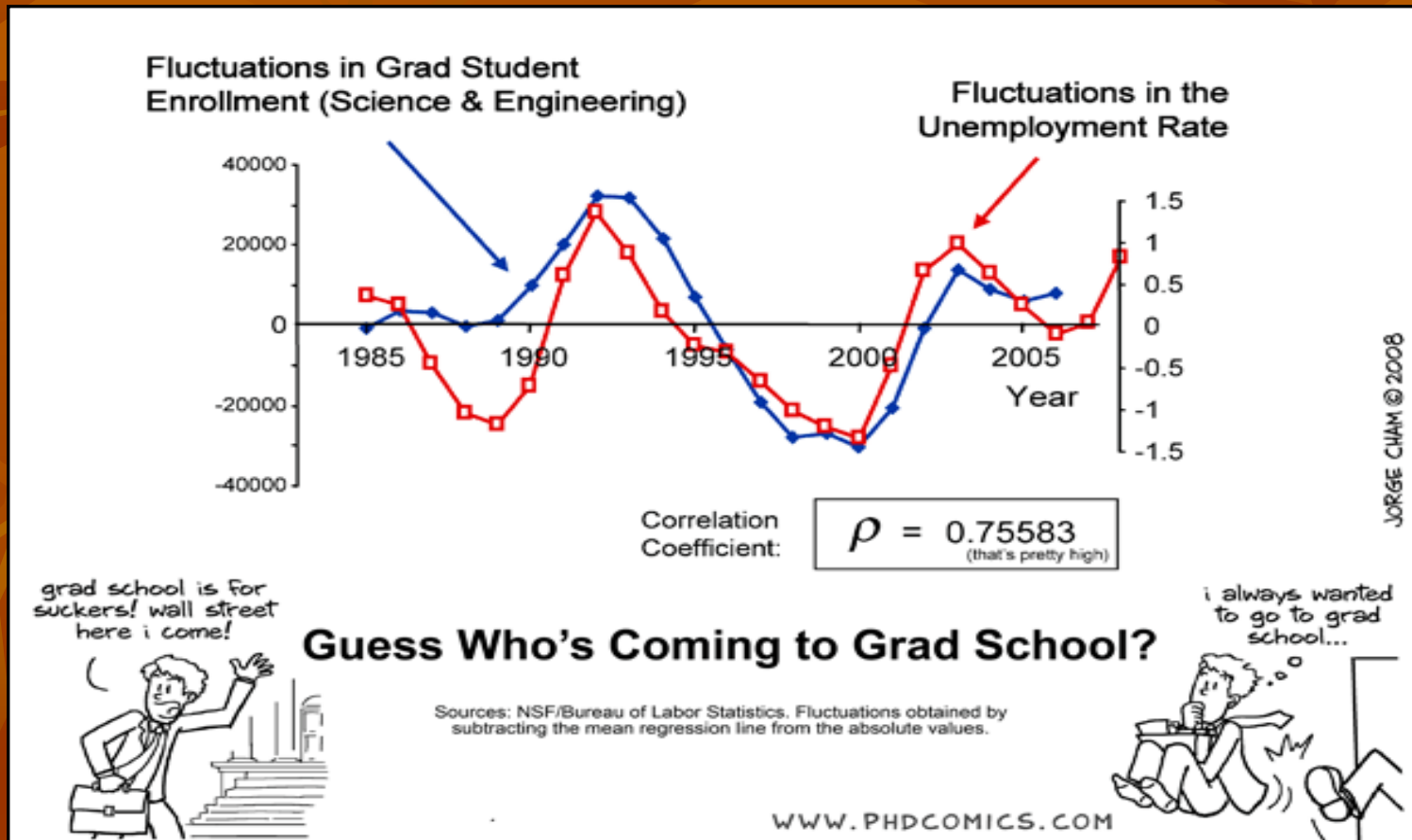
*Dr. Ross Geller*

# Why **not** to be here

- Confused ! And hope for enlightenment in 30 minutes
- I will ignite your love for research...
- It's a friday night ...and your girlfriend went out with another guy! ☹

# Statistical reason: Recession?

- Let unemployment drive you to school



# For a pinch of information

- B.Tech fatigue – don't let it end the pursuit of knowledge
- Make informed decisions. Know all options
- This talk
  - Get a glimpse of what a MS or PhD degree holds for you
  - View a roadmap to entering graduate school

# Outline

- Why graduate school?
- Are you the one?
- Preparing to apply
- Avenues after MS/PhD
- Summary

# Why graduate school?

- Entering IIT is generally under peer or parental pressure
  - Exult if you exercised your choice
- After 3-4 years here, some of you may realize that
  - You actually like studying or even teaching
  - You want to contribute to the state-of-art through research
  - You want to enhance your technical knowledge for better job prospects

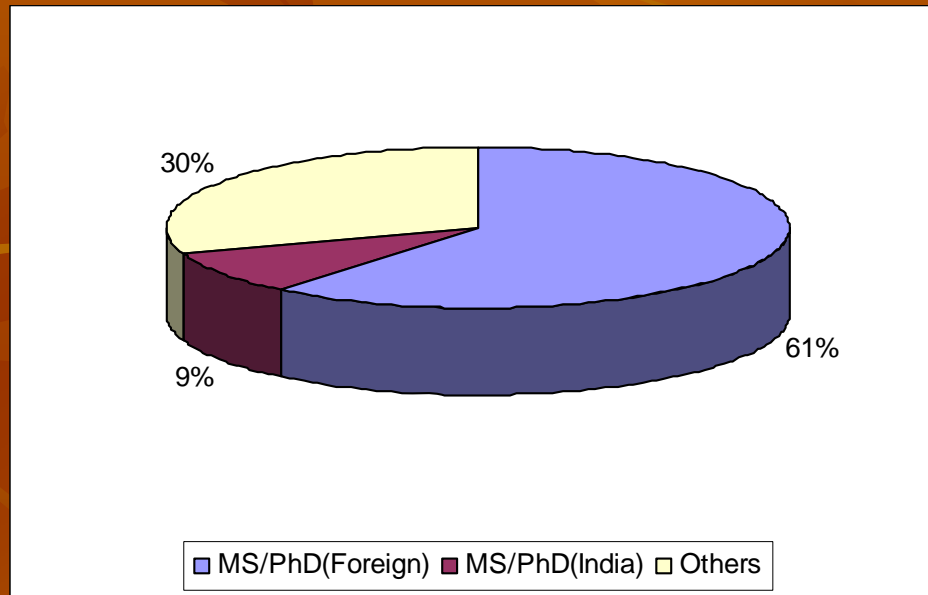
*Delve inside and, see if you are the one!*

# Why graduate school?

- You guys are smart... but B.Tech is just at the bottom rung of technical know how
- Become a technical specialist
  - Careers in academia, research labs, development
  - Even consultancy companies want PhD's (McKinsey, DeShaw et. al.)
  - Start your own company – Google spun off during a PhD

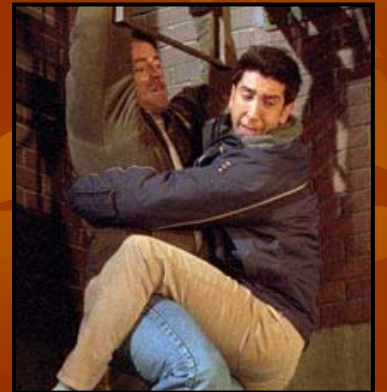
# Follow their footsteps?

- From 1989-2008 there are 56 IITK distinguished alumni
- At least **70%** of them went to graduate school!





**Are you the one?**



# MS: Are you the one?

- Pretty much yes!
- Time frame: 1.5 years to 2.5 years
- Complete  $N$  advanced level courses
  - Most courses have projects
  - Optional thesis, mild research work
- What you gain
  - Additional degree, some expertise
  - Better salary \$😊\$

# PhD: Are you the one?

- Depends..
- Time frame: 4 years to 7 years
- Requires high motivation and patience
- Typically, register for courses for first 2 years
  - Some universities have qualifiers
- More focus on research and publications

# PhD: Are you the one?

- A PhD is not for the money, or for the degree
- What you gain
  - Authority in your field
  - Experience contributing to human knowledge
  - Travel to exotic conference locations
- What you loose
  - Hair and culinary taste
  - Undue geekiness can drive away ladies

# Preparation



# Plan a schedule



# Resume

- The Geek **KISS** – Keep It Short & Simple
  - Avoid exceeding 1.5 pages
- Emphasize technical achievements, publications and projects
- Mention your CPA, department rank ..
- Extra curricular achievements are useful but not necessarily important
- Save space: your postal address is quite worthless!

# Which universities?

- Check out the department rankings at [usnews.com](http://usnews.com)
- For MS: pick the highest ranked
- For PhD: pick the more renowned research group or professor.
  - If you haven't decided your field then go by the university rankings
- Other famous schools
  - EPFL, ETH, Weizmann, Cambridge, IISc, TIFR..



# GRE

- Prepare during the summer
- Don't freak out. Scores above 1400 are good enough
- Subject GRE
  - Compulsory in some universities
  - A good score makes your case stronger
  - Plan ahead of time. Very few dates in India.

# SOP

- Again, apply the geek **KISS**
- Elaborate on your technical achievements
- Feel free to describe your most important technical contribution
  - Lessons learnt, final outcome..
- Make a compelling case
  - Strong background, eagerness for graduate studies
  - Be honest!

# Recommendations

- Very important!
- Choose your recommenders wisely
- Tip: Ask them where you should apply
  - The answer will indicate the type of recommendation you will receive
- Give them your SOP and resume
  - Remind them of your contributions and acumen
- A great recommendation will say
  - Alice is the best student I have seen in the last 5 years

# Miscellaneous

- Internships are useful. Try interning outside IIT
  - May lead to publications, recommendation letters
- Sending mails to professors is ok. But...
  - Don't spam. Don't pester
  - Evaluate your prospects and send only to those where you have a genuine chance

# After graduate school

Post-doc???...hmm



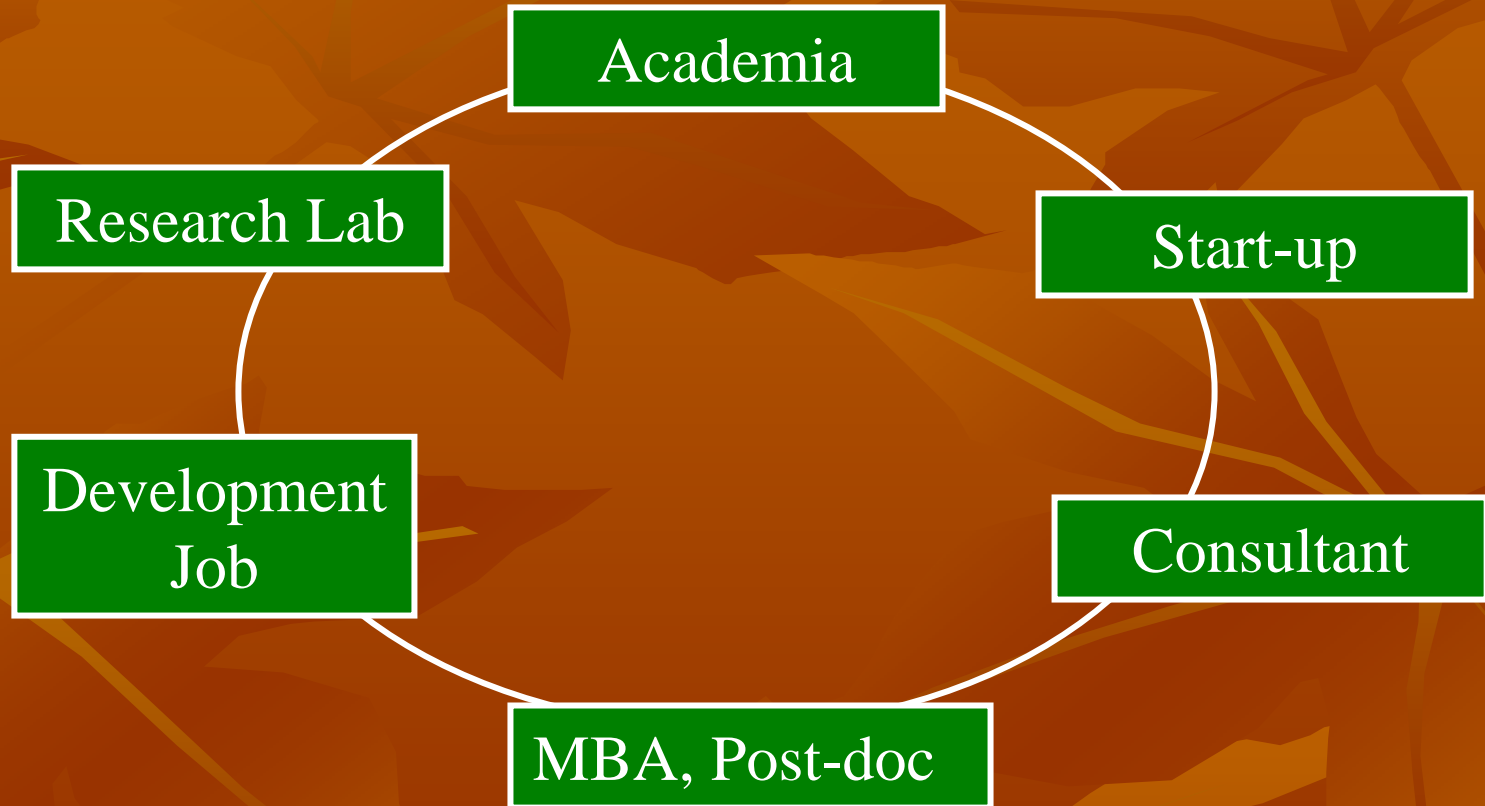
# Money market

- A very approximate salary for a CS geek in US

Geekiness Quotient	Initial Yearly Pay
Bachelor	\$55-65k
Masters	\$80-90k
Doctorate	\$110K+

\* Actual pay varies with location, company and your negotiation skills!

# Some avenues



# Summary

- Definite value addition after graduate school
- Plan early on applying
- Contact your seniors for more information

*Close your eyes, inhale deeply and hear yourself  
say...PhD...PhD...PhD!*



# Acknowledgements

- Rahul and Pushkar for data on alumni
- CAW team for organizing this
- Everyone else for not snoring during the talk  
😊

# Questions ?

- Feel free to ask ...
- If I say
  - It's a great question OR
  - We will take it offline

*Then , frankly, I don't know the answer !*

