Crafting a Successful Engineering Career

-PES College of Engineering
Engineering as a Career

- What is your Goal in life?
- Why did you join Engineering?
Some reasons for joining Engineering

• “Parents wanted me to be an engineer”
• “After 12th either you become doctor or Engineer. I was not cut out for doctor so I choose engineering. Nor did I want to do BSc.”
• Challenges, Curiosity, Excitement
• Money, Travel, Status
• To make a difference in the world, to change the way things work
• Want a job in big company
• “I want to start something of my own (entrepreneurship)”
How do YOU define Success?

- Do you want to get rich?
- Do you just want a job with decent pay?
- Do you want to change the world?

- You may go 10-20 years without answering these questions but eventually you have to
- Set yourself for Success according to your own metrics from the start
No one formula for Success

• Engineering is a field that requires many people with different skills to work together to solve complex problems in a simple way.

• Like best engineering problems, there’s no single algorithm to follow
  – But there are “Best Practices”
  – There are Things To Avoid

• Do not make all mistakes yourself
  – Learning from other’s errors is much better
Getting Started

- **What are you passionate about? Do that.**
  - Mere competence will never trump real passion
  - Match your skills, interest to what world wants

- **Your answers will change with time**
  - Let career evolve
  - You can find career value in any job
    - Just do outstanding work no matter the task
    - It is mostly the choice you make not talent or IQ
Which Job to Take?

- Look 20 years out & place your career as a bet
  - Which technologies or business domains are most powerful/promising?
  - Biotech, IT, Clean Energy, Health Care, Telecom, Micro Finance

- Which line up with your personal belief system?
  - Defense, medicine, consumer, corporate, academia
Startups v/s Big Corporates

• **Good idea to do both over course of your career**
• **Startups are easier when you’re young**
  – *More time, more energy, less to lose*
  – *Startups can sometimes change world explosively*
    • But most fail
    • Less overall stability

• **Big companies have more opportunities to change world incrementally**
  – *Remember that those increments can add up over time*
  – More stable, but sometimes that also means boring

• **Both can be exhilarating, and both can be very frustrating**
Getting Hired

- **Where to work**
  - Weight these factors heavily:
    - Do you believe in the mission
    - How outstanding is the team
    - How well-run is the company
    - Would this position leverage your skills, demand intellectual growth
    - Geography, local culture, educational opportunities

- Then consider salary, bonuses, stock, benefits
Your First Job

• No matter what it is, become best in world at it
  – Plan on 2-3 years to get really comfortable & productive
• Work as hard as you can
  – You are setting your own reputation & trajectory
  – Only Top Performers have choice of options for next project
  – Find mentors & role models (don’t struggle in silence)
• Don’t Let Your Team Down
  – Know when to stand your ground v/s which battles aren’t worth fighting
• Settle for nothing less than outstanding work.
Building your Career

- **Focus on YOU**
  - Know your career path
    - Individual Contributor v/s Management
  - Technology changes rapidly, keep yourself updated
    - Look for trainings, attend workshops

- **Focus on the Company**
  - Align your career to what the company cares about
Building your Career – Resources

- Your Alma Matter – stay connected
- Participate and Network
- Books – Read outside your specialty
- Balancing Work and Home
Getting Ahead in Your Job

- **Communications = Influence = Promotions**
  - Writing
  - Presentations

- **Corporate/team culture**
  - Overpromising v/s over delivering
  - Team play v/s getting what’s yours
  - Detecting /avoiding burnout
  - Use existing solutions where possible, innovate where necessary

- **Legal Stuff**
  - Take patents, IP very seriously; wording matters
Getting Ahead in Your Career

- Do outstanding work and trust that rewards will follow
  - How? Work with people who do outstanding work
- Be visible outside your own company
  - Good for company, good for industry, good for you
  - Write papers, attend conferences, do peer reviews
  - Be active in IEEE/ACM
Technical Leadership

- Take on hard challenging problems at work
- Be a go-to person
- Gain depth in technology / business domain at your job
Leadership

- 360° Leadership
  - Leading above, below and at your level
- Know your strengths and weaknesses
  - Leverage strengths
  - Fill in weaknesses
Dealing with Failures

- If you never fail you aren’t trying hard enough
- Not all failures equally forgivable
  - Well-conceived risks: good

- Learn from your failures
  - Do not blame others
  - Own up and take responsibility
Education

- B.Tech, M.Tech/MBA, PhD
  - PhD required for research
- Stay viable & current
  - Ongoing education/training
  - Go to conferences, monitor what universities are working on
  - IEEE membership & participation
    - Review papers, submit papers, attend conferences, be active in local organizations (networking & cont. educ.)
- Don’t give up your non-engineering interests
  - They will inform your engineering
  - They’ll keep you connected to the non-techie world
  - They’ll keep you from burning out
Successful Engineering Career
Any Questions… ???

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