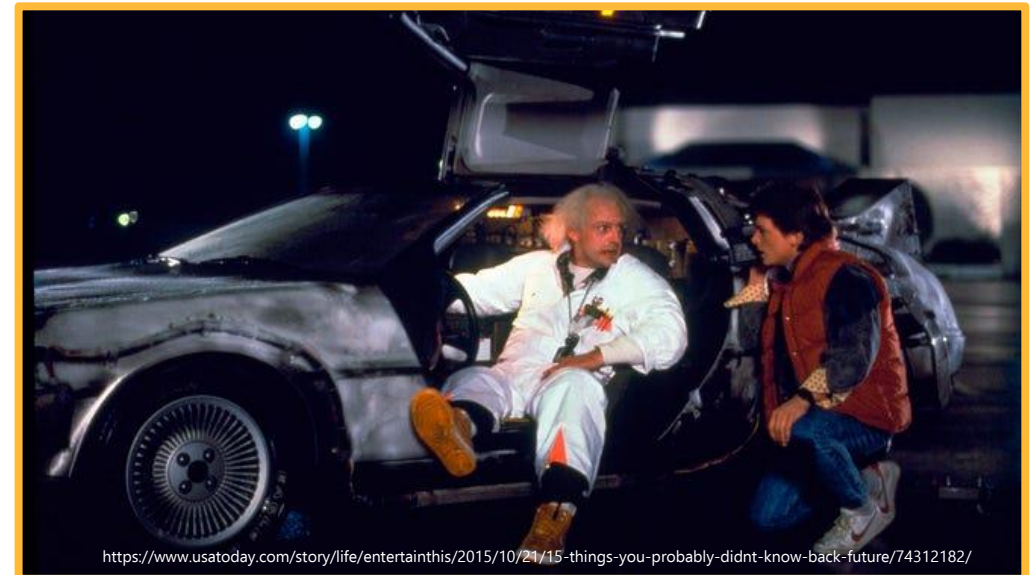# On Being a Computer Scientist: If I had a DeLorean

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#1: Core Computer Science

- Learn core computer science before specializing

  - CPU and GPU computer architecture
  - Digital logic
  - Operating systems
  - Programming languages
  - Theory of computation
  - Software engineering
  - Parallel programming
  - Compilers

#2: Build a Compiler

- Take a compilers course that requires building a compiler from the ground up

    - This requires understanding
        computer architecture,
        operating systems,
        programming languages,
        software engineering, and
        teamwork.

#3: Internships

- Intern at multiple companies during your graduate degree

    - Internships are extended job interviews for both the student and the employer

#4: Funding

- Understand why the research position is funded

  - Academic grant: read the grant proposal

  - Industry funding: why is the company funding you?

  - Let the funding goals influence your "if the project is wildly successful" dream, but do not let it dictate the details of your journey

#5: Dream The Impossible Dream

- Pursue high-risk, high-reward research

  - Ignore projects that lead to easy publications

#6: Collaboration

- Collaborators actively contribute to a shared code or paper repository

  - Anything else is talking

#7: Academic Competitors

- Collaborate with your academic competitors

  - They share a passion for the same research problems

#8: Mentors

- Seek out mentors who:

  - Have something to teach you

  - Put your career advancement / needs before their own

  - Be someone you trust

- Be a mentor

#9: Credit

- Give credit rather than take credit

  - Giving credit costs almost nothing

  - Not giving credit can permanently end collaborative relationships

  - Credit both ideas and effort

Thank you

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