
2011 Career Day

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Bioteam (<http://bioteam.net>)



What do I do?

- **Computer Programming**
- **Bioinformatics**
 - Biology
 - Genetics
 - Genomics
- **Consulting**
 - Work by the hour



Bioteam Inc.

Independent Consulting Shop

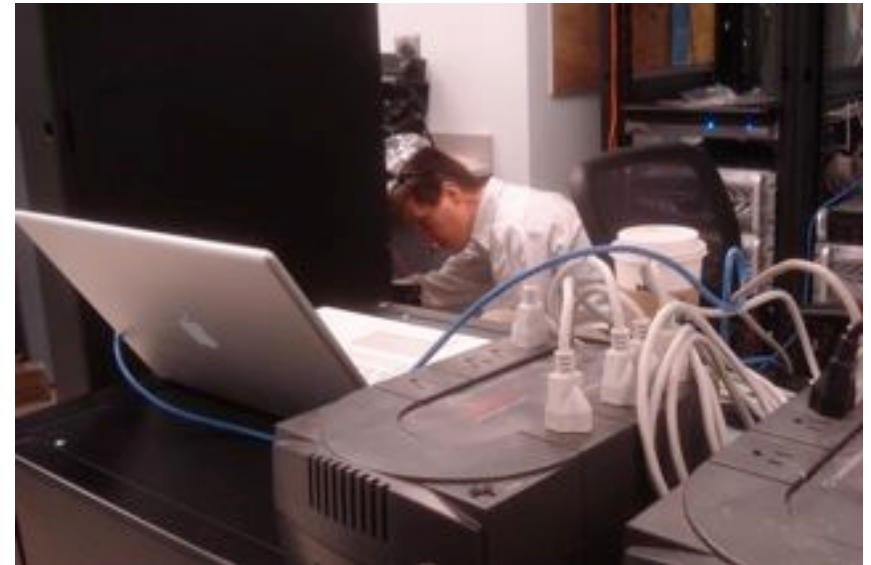
- Started in 2002
- Mostly in Boston
- Independent

Staffed by:

- Scientists who can program
- Variety of backgrounds
- Many years experience

Our specialty:

- Bridge the gap between science & IT



About Me

University of Michigan, Ann Arbor

- 1996 BS, Computer Science
- 2000 MS, Computer Science / Artificial Intelligence

1996 – 2000: ERIM International / Veridian / General Dynamics

- Teaching missiles to attack tanks, rather than trucks.
- Locating landmines.

2000 – 2004: University of Minnesota

- Writing computer programs for biologists
- Free tuition = graduate coursework in Biology.

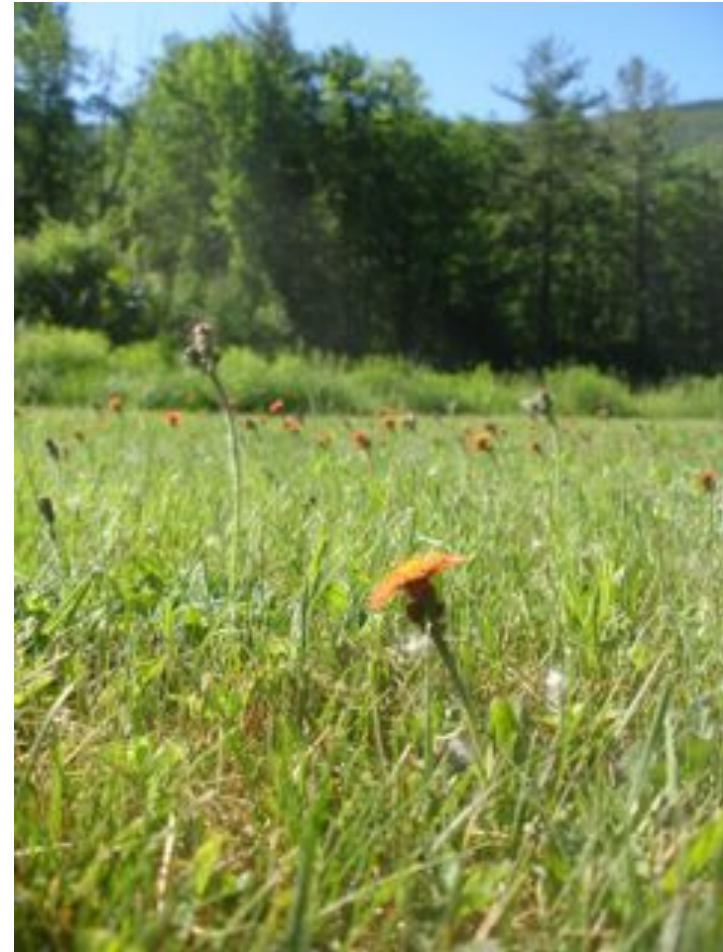
2004 - present: Bioteam

- First employee. Company is now nine people.
 - Director of consulting and professional services
-



What's Interesting About That?

- Wrote software re-sold by Apple, used worldwide
- Speak **as an equal** with professors, doctors, scientists, and other people way more “important” than me.
- Every now and then, I feel that my job matters.



Computer Programming / Software Engineer

Undergraduate degree in computer science or software engineering.

Learn at least two programming languages.

I use C and PERL.

You should probably learn Java and Python

Don't get too attached to specific technology

Get some real world experience

Build stuff!



Customers / Partners

- Navy Medical Research Centers
- NASA Science Directorate
- Center For Disease Control and Prevention
- Environmental Protection Agency
- Pharmaceuticals: Novartis, Pfizer, Bristol Meyers Squibb...
- Universities: MIT, Bowie State, U. Maryland, Emory, Penn State, ...



NO SMOKING

How Can I Help?



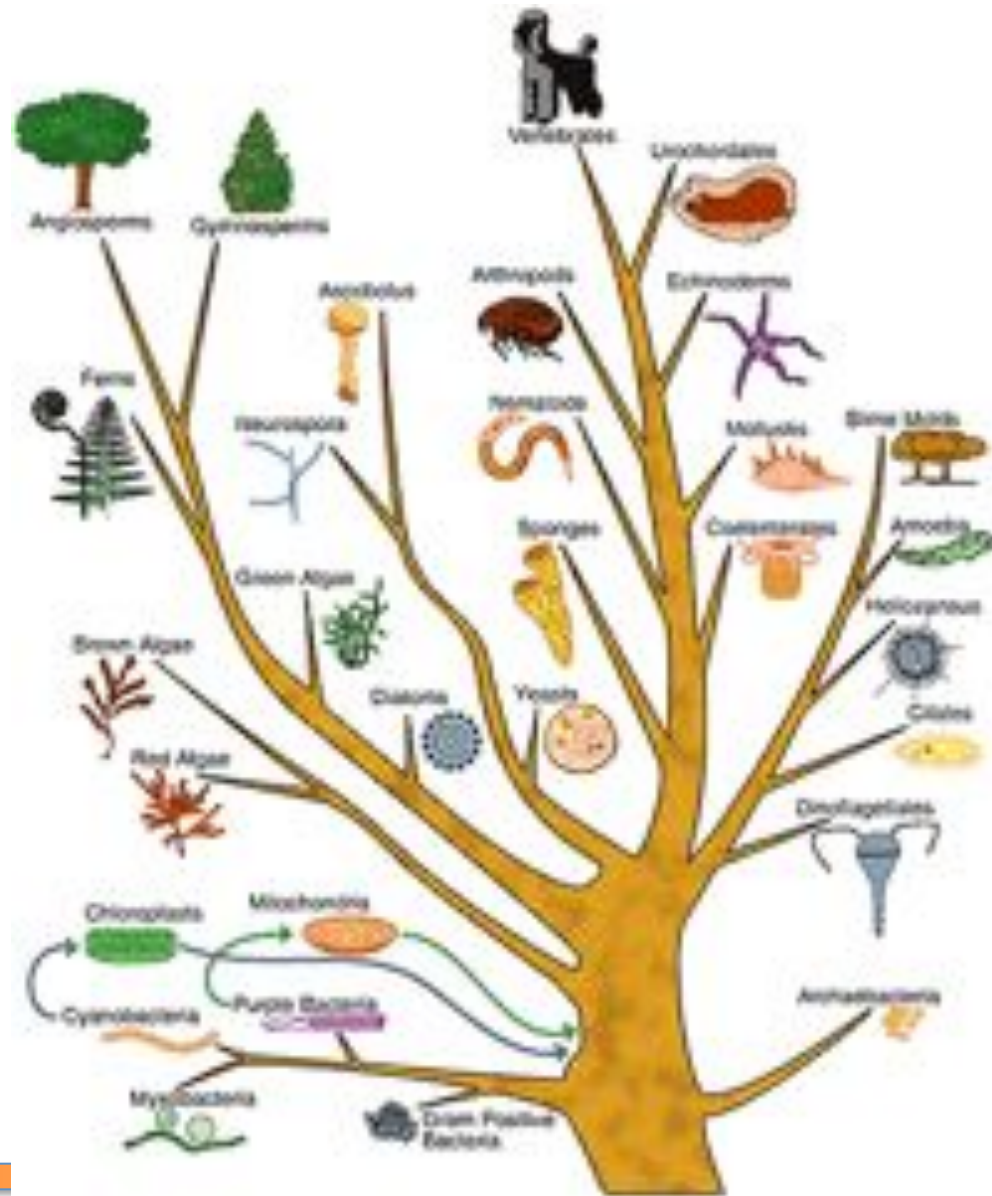
How Can I Help?



How can I ...



Evolutionary Biology



Human Genome Project

- **1990: Human Genome Project kickoff**
 - ~3,000,000,000 “letters” in our DNA
 - 20,000 “chunks” distributed worldwide
 - About \$1 per letter. (\$3 billion)
- **1998: Private effort kickoff (Celera Genomics):**
 - Shotgun Sequencing: 6,000,000 chunks
 - About \$0.1 per letter. (\$300 million)
- **2000: “rough draft” completed**
- **2003: “complete sequence” published**
- **2010: Clinical sequencing at \$10k - \$40k per individual.**
- **2011: “A whole human genome in 3 hours”**

Human Genome, printed out as books



DNA Sequencers



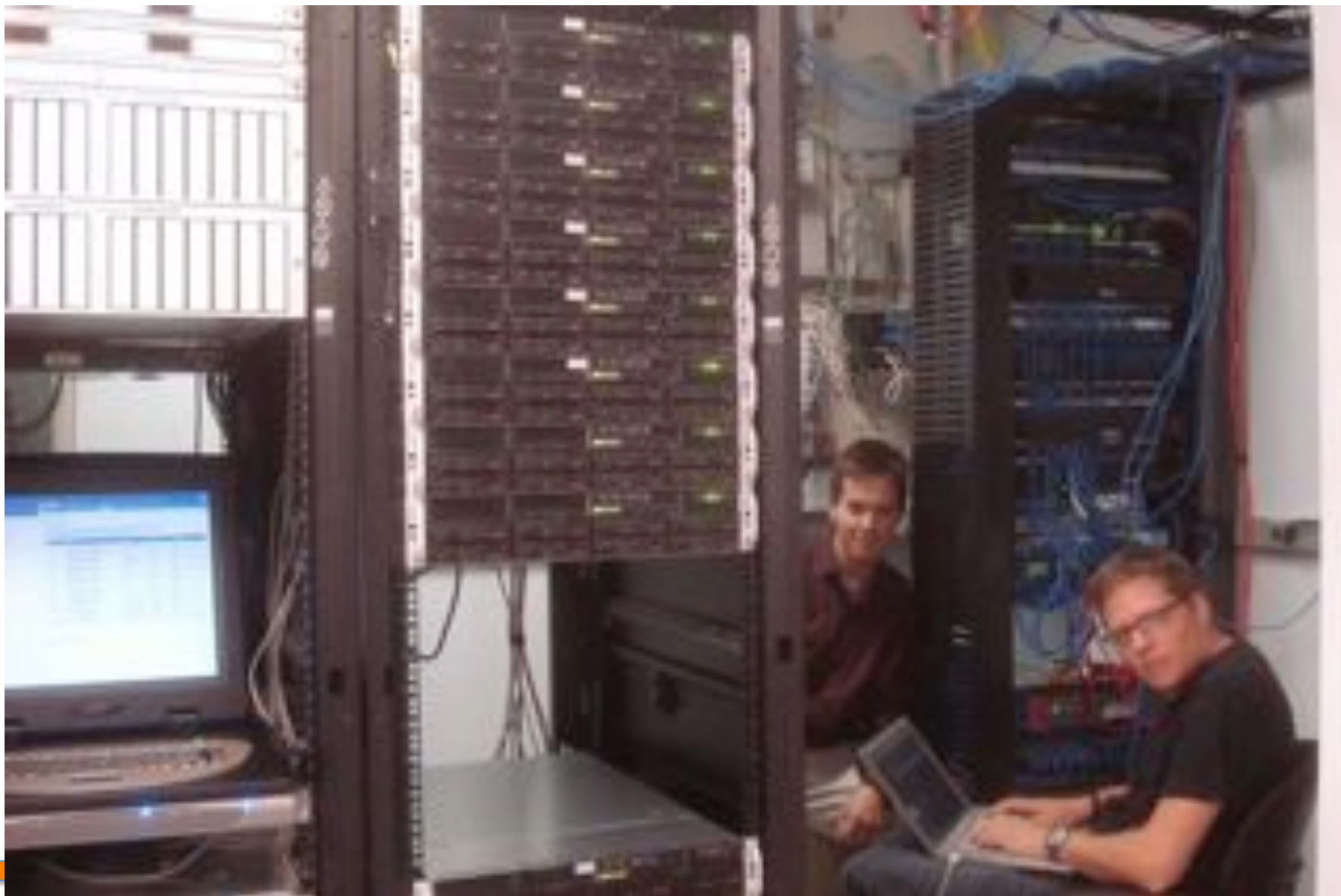
DNA Sequencer



DNA Sequencers



Servers and Disks



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Working From Home



Career Advice

Don't worry too much about money. Be a "lifestyle entrepreneur"

- If money caused happiness, rich people would **always** be happy
- If money was required for happiness, poor people would **never** be happy
- Make enough money to feel secure, and then work on being happy

Know who you work for:

- Figure out who pays the bills, and what they are buying
- Be able to explain the high level goals of your work.
- In business, cash is king.
- In academia, publications are king and PhDs rule.

Do not work on dishonorable projects

Never burn any bridges (reputation is everything)

***The opposite of play is not work. The
opposite of play is depression***

Questions?



23andme.com data demo

