Immigration and Diversity

Lecture Summary
- DACA
- STEM shortage
- Outsourcing
- Diversity

In the news

Immigrants Help Solve the Looming STEM Worker Shortage
Microsoft Employees Protest Work With ICE, as Tech Industry Mobilizes Over Immigration
Harvard Student Says He Was Barred from U.S. Over His Friends’ Social Media Posts
Cisco Said to Be Cited for Bias Against U.S. Workers

Issue: Separation in the U.S.

“Central to the Holy Cross education Notre Dame offers is a sense of family, centered on the Holy Family of Jesus, Mary and Joseph, and in that spirit I call on the Administration to end immediately the cruel practice of separating children from parents and parents from children.” – Father Jenkins

https://www.youtube.com/watch?v=srnYPzVKOSw

Why were families being separated at the border.

What is DACA?

Sens. Lindsey Graham (R-South Carolina) and Dick Durbin (D-Illinois) introduced the Dream Act of 2017, S. 1615, in the Senate on July 20, 2017. Congresswomen Ileana Ros-Lehtinen (R-Florida) and Lucille Roybal-Allard (D-California) introduced the Dream Act, H.R. 3440, in the House on July 26, 2017. This bipartisan, bicameral bill would provide Dreamers — young undocumented immigrants who were brought to the United States as children and have lived in the U.S. at least four years — protection from deportation and an opportunity to obtain legal status if they meet certain requirements.

Almost 800,000 young undocumented immigrants, who came to America as children, have lived here since at least 2007 and met other requirements, are recipients of Deferred Action for Childhood Arrivals (DACA), through which they qualified for temporary protection from deportation and legal work authorization for a renewable period of two years.

http://www.youtube.com/watch?v=QJCyApXugdY

Issue: Tech Support for DACA

“We say this even though Microsoft, like many other companies, cares greatly about modernizing the tax system and making it fairer and more competitive. But we need to put the humanitarian needs of these 800,000 people on the legislative calendar before a tax bill. As an employer, we appreciate that Dreamers add to the competitiveness and economic success of our company and the entire nation’s business community. In short, urgent DACA legislation is both an economic imperative and a humanitarian necessity.”

– Microsoft President Brad Smith

Issue: Stem Shortage

Is there a shortage of STEM workers?
Issue: Wage Suppression

Four of the largest technology companies (Google, Apple, Adobe, Intel) tentatively settled on Thursday a class action brought by 64,000 of their engineers, who accused them of agreeing not to solicit one another’s employees. The amount of the settlement was not released, but people with knowledge of the deal said it was in the neighborhood of $300 million.

Issue: Outsourcing and Offshoring

- Outsourcing
  - Using an outside agency or consultants to perform operations typically done in-house.
  - What are the motivations and incentives?
  - Do companies have an obligation to their current employees?

- Offshoring
  - Moving operations or business units to another country.
  - What are the motivations and incentives?
  - Do companies have an obligation to a particular country?

Video: Disney IT Workers

http://www.youtube.com/watch?v=nG2aTNW3BBQ

Video: Politics

http://www.youtube.com/watch?v=spGF3mQtY0

H-1B: Overview

- The H-1B Visa is a non-immigrant visa that allows US companies to temporarily employ foreign workers in specialty occupations
- These specialized fields include architecture, engineering, mathematics, science, and medicine
- Visas are granted for an initial period up to 3 years and then be be renewed for up to a total of 6 years

H-1B: Requirements

1. Must have an employer-employee relationship with a petitioning U.S. employer
2. Must have a bachelor's degree or higher (or equivalent work experience, 3-to-1 ratio)
3. Must be working in a specialty occupation (ie. STEM)
4. Must be paid the prevailing wage (based on position and location)
H-1B: Exemptions and Caps

There is an annual cap of 65,000 visas
- First 20,000 applicants with U.S. master's degree or higher are exempt from annual cap
- Workers from an institution of higher learning, non-profit research organization, or government research organization are also exempt from cap
- Applications come on April 1 and if there are more petitions than available slots, then a random lottery is used

Stakeholder: Tata and Infosys

Indian consulting companies want access to U.S. clients, who often require local consultants.
- To use a mixture of U.S.-based workers and off-shore workers, these companies use the H-1B program to bring in Indian nationals to the US
- IT outsourcing is a $150 billion industry for India where 60% of revenue is from US
- In 2013, Infosys and Tata were approved for around 12,000 H-1B workers
- Indian nationals now make up around 70% of H-1B workers

Stakeholder: Outsourcing

13 outsourcing companies took nearly one-third of all H-1B visas in 2014.

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Stakeholder: Google, Facebook, Etc.

Major technology companies want to hire the best, regardless of nationality and will pay high salaries.
Stakeholder: Government

**Promotion**
The government wants to enable companies to hire the best talent and thus perform better (and grow and profit).

**Protection**
The government also wants to ensure US workers are treated fairly and are able to compete on an even playing field.

Reform: Proposals

Lofgren
- Raise salary level to $130,000
- Remove per country cap
- Set aside 20,000 visas for startups and small businesses
- Bridge for students on F-1 to Permanent Resident

Trump
- Publish reports with basic statistics on program use
- Reverse extension of duration of OPT visas and spousal permits
- Businesses would have to try to hire American first. If they recruit foreign workers, priority would be given to the most highly paid

Reform: Buy American and Hire American

Through the use of executive power, the Trump administration has pushed a "Buy American, Hire American" agenda, which prioritizes visas for "most-skilled or highest-paid" workers.
- Increase of denials of renewals (30+%)  
- Diminish number visas to outsourcing firms (50% rejection rate)  
- More people with advanced degrees awarded H-1B visas

Stakeholder: Classmates

However, as an international student that hopes to score the H-1B some day, I have realized that this is incredibly tough to achieve once here. Having done everything legally, and working really hard to be a student in good standing at Notre Dame, I have been walked out of interviews and have had recruiters hang up the phone on me when they realize I am an international student seeking visa sponsorship. I filtered job applications with “Need work authorization” in Go Irish and found that only ~20 applications remained. Half are usually banks. 20. applications…

Of my Notre Dame international alumni friends, their chances of “winning the lottery” are at a 33%, and now their chance of renewing the visa has been put to scrutiny under the current administration.

Yes, I have a dream of being an amazing professional, but the immigration system tells me my dream can only be to apply to certain companies, and stay for 1-3 years (usually) at most.

-- Angelica Franco

In general I understand Trump's crack down on immigration policy because people tend to forget their past and often fight to protect their vested rights they gained from their ancestor's immigration long time ago. Immigration back then was definitely easier than nowadays and everybody in America is an immigrant. This can be viewed as immigrants preventing other later immigrants from living in the States because they are already here and enjoying the privilege. Therefore, personally as a foreigner who is trying to find jobs here, I am strongly impacted by Trump's policy and literally "hate" it. -- Luke Song

There is also this internal conflict that is partly caused by a comment I heard at some point in my college career: "Why don't you go back to Korea?"... Quite frankly it is almost entirely for my own desire that I am here and trying to stay here. I want to pursue a career in animation / gaming, and as far as I know getting a career break in the US in this industry is my chance to do that. I've studied hard and built a portfolio to show my passion for the industry, and honestly I feel like I deserve it... But if I've done the duty and pursuing it legally, isn't that what following the "American dream" is about? -- Rosa Kim

Thought: Shining City

I've spoken of the shining city all my political life, but I don't know if I ever quite communicated what I saw when I said it. But in my mind it was a tall, proud city built on rocks stronger than oceans, wind-swept, God-blessed, and teeming with people of all kinds living in harmony and peace; a city with free ports that hummed with commerce and creativity. And if there had to be city walls, the walls had doors and the doors were open to anyone with the will and the heart to get here. That's how I saw it, and see it still.
Thought: Land of Opportunity

Not like the brazen giant of Greek fame, With conquering limbs astride from land to land; Here at our sea-washed, sunset gates shall stand A mighty woman with a torch, whose flame is the imprisoned lightning, and her name Mother of Exiles. From her beacon-hand glows world-wide welcome; her mild eyes command The air-bridged harbor that twin cities frame. "Keep, ancient lands, your storied pomp!" cries she with silent lips. "Give me your tired, your poor, your huddled masses yearning to breathe free. The wretched refuse of your teeming shore. Send these, the homeless, tempest-tost to me, I lift my lamp beside the golden door!"

Diversity In The News...

Google Employee Alleges Discrimination Against Pregnant Women in Viral Memo

My father was IBM's first black software engineer. The racism he fought persists in the high-tech world today

For Young Female Coders, Internship Interviews Can Be Toxic

Predicting Women's Persistence in Computer Science- and Technology-Related Majors from High School to College

Open letter to the Free Software Foundation Board of Directors

Diversity

Is lack of diversity a problem?

Code: Debugging the Gender Gap

http://www.youtube.com/watch?v=ImgOzEzdzMl

Google's Lack of Diversity (2019)

Stem's lack of diversity
STEM’s earning gap

The gender earnings gap varies across STEM occupations and education levels. The earnings gap is higher among women and minorities.

Is Academia Any Better?

Table 3. Faculty Diversity by Field and U.S. Population Diversity (Percentages)

<table>
<thead>
<tr>
<th>Field</th>
<th>U.S. Population</th>
<th>Biology</th>
<th>Chemistry</th>
<th>Economics</th>
<th>Policy</th>
<th>English</th>
<th>Sociology</th>
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<tbody>
<tr>
<td>All</td>
<td>19.8%</td>
<td>12.8%</td>
<td>13.9%</td>
<td>15.4%</td>
<td>16.0%</td>
<td>18.1%</td>
<td>13.7%</td>
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<tr>
<td>Non-STEM fields</td>
<td>19.4%</td>
<td>12.5%</td>
<td>13.7%</td>
<td>14.5%</td>
<td>15.6%</td>
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<td>Racial/Ethnic</td>
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<td>6.7%</td>
<td>2.9%</td>
<td>15.4%</td>
<td>8.6%</td>
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<td></td>
<td>Black</td>
<td>12.3%</td>
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<td>15.4%</td>
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<td>9.4%</td>
<td>9.9%</td>
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<tr>
<td></td>
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<td>10.0%</td>
<td>15.4%</td>
<td>15.4%</td>
<td>8.8%</td>
<td>5.7%</td>
</tr>
<tr>
<td></td>
<td>Multi-ethnic</td>
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<td>31.1%</td>
<td>28.8%</td>
<td>42.2%</td>
<td>13.7%</td>
</tr>
<tr>
<td></td>
<td>Other/Unknown</td>
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<td>8.0%</td>
<td>10.0%</td>
<td>10.0%</td>
<td>0.0%</td>
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The missing black professors

Gender diversity at Notre Dame

Notre Dame CSE Demographics

<table>
<thead>
<tr>
<th>Year 2015</th>
<th>Year 2016</th>
<th>Year 2017</th>
<th>Year 2018</th>
<th>Year 2019</th>
<th>Year 2020</th>
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<tbody>
<tr>
<td>M</td>
<td>48%</td>
<td>48%</td>
<td>48%</td>
<td>48%</td>
<td>48%</td>
</tr>
<tr>
<td>F</td>
<td>52%</td>
<td>52%</td>
<td>52%</td>
<td>52%</td>
<td>52%</td>
</tr>
</tbody>
</table>

Decline of women in CS

Why only focus on STEM

Barriers: Uber Bad?

“When I joined Uber, the organization I was part of was over 25% women. By the time I was trying to transfer to another eng organization, this number had dropped down to less than 6%.

Women were transferring out of the organization, and those who couldn’t transfer were quitting or preparing to quit. There were two major reasons for this: there was the organizational chaos, and there was also the sexism within the organization.

When I asked our director at an org all-hands about what was being done about the dwindling numbers of women in the org compared to the rest of the company, his reply was, in a nutshell, that the women of Uber just needed to step up and be better engineers.”

-- Susan Fowler

Rise of the Programmer?

Programmer = bro + programmer

- “Lots of red meat, push-ups on one hand, while coding on the other, sunglasses at all times, a tan is important, popped collar is a must.
- It’s important that you can squash anyone who might call you ‘geek’ or ‘nerd’ and that you can pick up girls, but also equally important that you know the “Star Wars” movies by heart, and understand programming ideas, like recursion and inheritance.”

Nerdy Strutting?

“For some reason, the atmosphere on slack would fall prey to nerdy strutting at points, and sometimes discussions about video games I’d never heard of would go on for awhile. Occasionally slack would help me realize that people who seemed like they knew everything also had questions, but mostly I was afraid of showing how little I knew by the basic questions I needed answers to sometimes or their obvious answers. I frequently felt like I was way behind, but in actuality many people I talked to seemed to have the same difficulty with homework that I did. Overall, my conclusion was that the majority of compsci majors feel equally behind or intimidated by the minority who stand out and seem to know everything about computers, so it’s weird to me that what I believe is really a minority opinion dominates the atmosphere so completely.

It could be a general Notre Dame culture of trying to look like you have it all together that plays into this and exaggerates it.”

Excluded from the Club

- “This is pretty minor, but I always felt like there was this “club” that I wasn’t in. Like professor “X” can be pretty bro-y, makes superhero/video game references a lot and I’m just super not like that I guess. There was the occasional comment that made me slightly uncomfortable (he asked a girl if she had a boyfriend once in front of the class, again not super bad but I felt like it was inappropriate).

Similarly I felt like he did not treat girls and guys the same which is a big pet peeve of mine. It was never that he mistreated girls it was just sometimes the things that he asked or made fun of people for would totally not have been done if gender had been switched. Idk though like I said he was a great teacher and I’m sure 90% of people love how chill he is, but sometimes it was a bit unprofessional feeling to me.”

- “You very easily fit into the category of CS people that seem like they think they’re better than you because they’ve been doing it their whole life when I haven’t. Besides all of the memes, it makes you really hard to approach. I didn’t feel comfortable coming to office hours or talking to “X” until the end of the year because of this. This really took a hit out of my comprehension and how engaged I was in this class.”

Hacker News

- “Stereotypes” come from patterns in empirical reality. They are not created and administered by some Evil White Male committee as you seem to think. Women are in no way discriminated against in tech, nor have they ever been. Passionate and skilled women in tech certainly exist, they are just relatively rare. Withholding resources from boys because of their gender actually is discrimination, and should not be encouraged.

- Girls are free to study what they want. If they don't want to study STEM fields - their problem, which I don't feel having to care for.

- I don't think it can be demonstrated that women are systematically impeded from involvement in STEM fields and CS when there are many programs actively targeting women and girls. A skilled woman in CS appears to have a huge advantage in hiring, at least in any company I've been in.

Soft Bigotry of Low Expectations

http://www.youtube.com/watch?v=XP3cyRRAfx0
Diversity: Questions

- Is the lack of diversity in the tech industry a problem? Why or why not?
- What are some of the barriers or challenges to increasing participation in technology?
- Is there such a thing as privilege? How does it factor into the discussion of diversity?
- What can we do to fairly and ethically promote an increase in diversity? Should we incentivize one group over another? Does the end justify the means?

Stubborn Facts and Ideologies

The logical response to this narrative is the development of interventions to reduce stereotype threat, implicit bias, and microaggressions. But, what if these factors have much smaller effects on girls and women than proponents argue? Sex differences in occupational interests are large, well-documented, and reflect a more basic sex difference in interest in things versus people. Men prefer occupations that involve working with things (e.g., engineering, mechanics) and abstract ideas (e.g., scientific theory) and women prefer working with and directly contributing to the wellbeing of others (e.g., physician, teacher). The sex difference in interest in people extends to a more general interest in living things, which would explain why women who are interested in science are much more likely to pursue a career in biology or veterinary medicine than computer science.

A better route to increasing women’s participation in STEM might be to focus on the substantive numbers of girls with relatively higher science or mathematics than reading achievement; 24 percent of Finnish girls, for instance. These girls have the academic profile that is common in boys that pursue STEM-related careers but fewer of these girls than boys actually pursue them. It seems to us that interventions focused on this group of girls (e.g., individual mentoring) holds much more promise for increasing the number of women in inorganic STEM professions than do currently vogue interventions that focus on purging the wider society of stereotypes, implicit bias, and microaggressions.

Sex and STEM: Stubborn Facts and Stubborn Ideologies.