



# Where do Old Programmer's Go?

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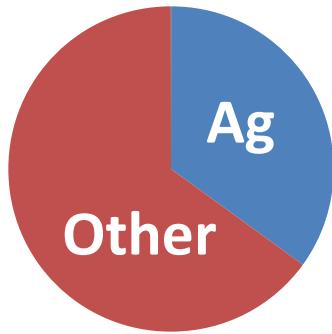
Poughkeepsie ACM October 19, 2015

# Scott's Job Experience

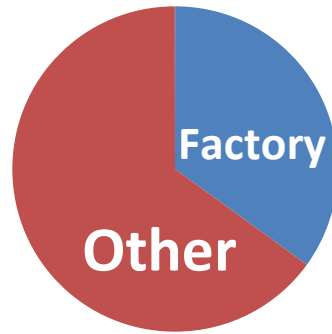
WESTBROOK'S ESSO



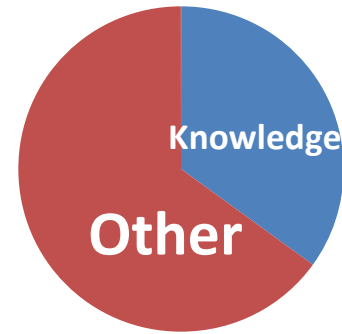
# U. S. Workforce



1800



1900



2000




2016

In *Second Machine Age*, MIT  
Professor Erik Brynjolfsson:

“In the future computers will be replacing doctors, lawyers and many other highly educated professionals.

With rapid advances in AI, computers can perform tasks previously carried out by knowledge workers such as analyzing trends, translating foreign languages, and filing tax returns.”

A line of people in business attire is shown from the waist down, holding briefcases. Each briefcase has a white sign with the text "READY FOR WORK" in bold, black, sans-serif capital letters. The people are standing on a paved surface, possibly a sidewalk or street. The background is slightly blurred, showing a building entrance.

Global unemployment is rising – this is the first industrial revolution that wipes out more jobs than it creates.

One 2013 Harvard study predicts 47% of all American jobs are destined to be automated.



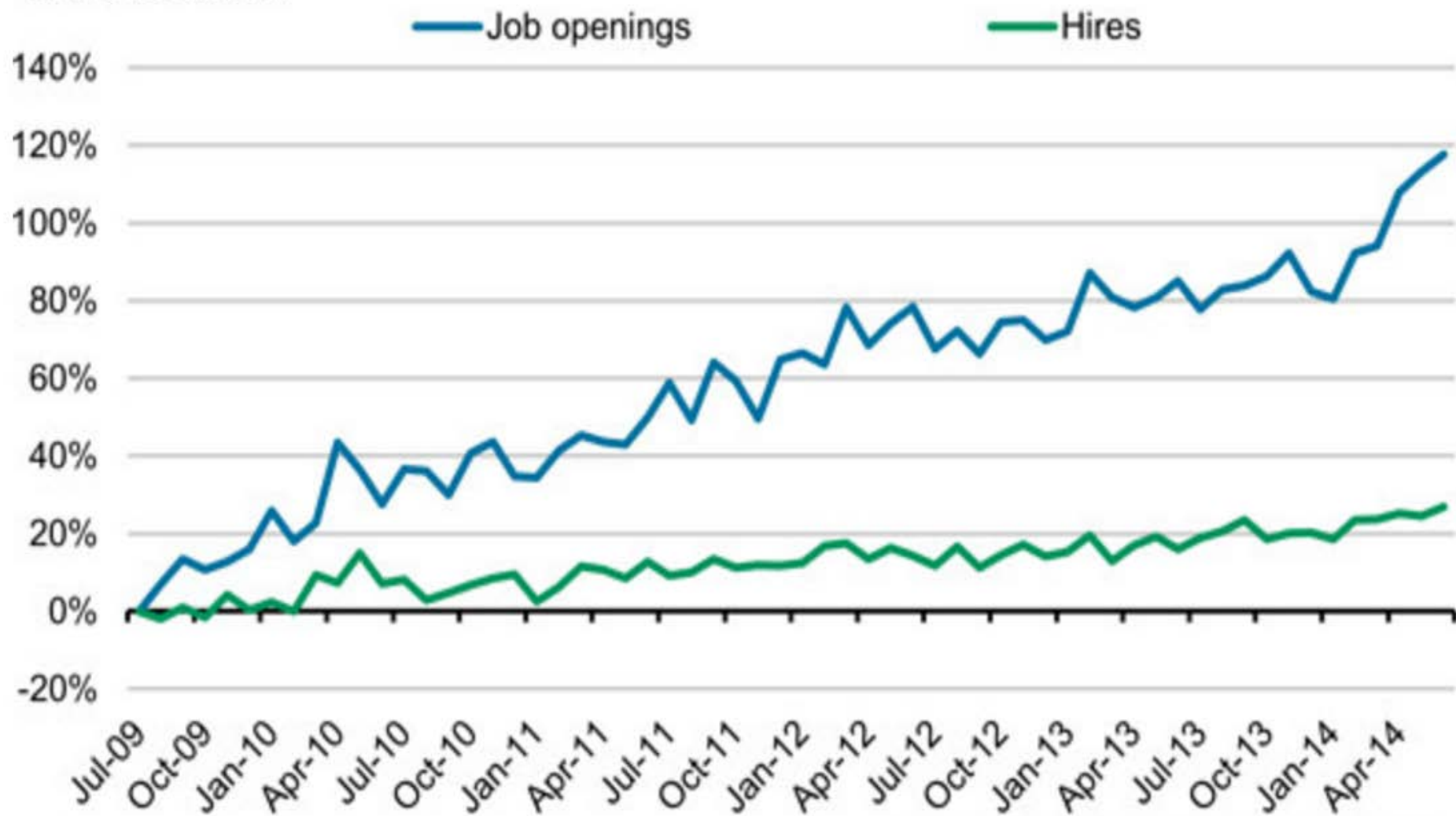
**STEM** Science, Technology,  
Engineering, Mathematics

Capelli (Wharton) reports that only about 1/5<sup>th</sup> of recent graduates with STEM degrees got jobs that used their training.

Why? Corporate cost-cutting, having thinned the ranks of the factory floor and routine office jobs, are now targeting IT and technical staff with outsourcing.

# The Hiring Gap

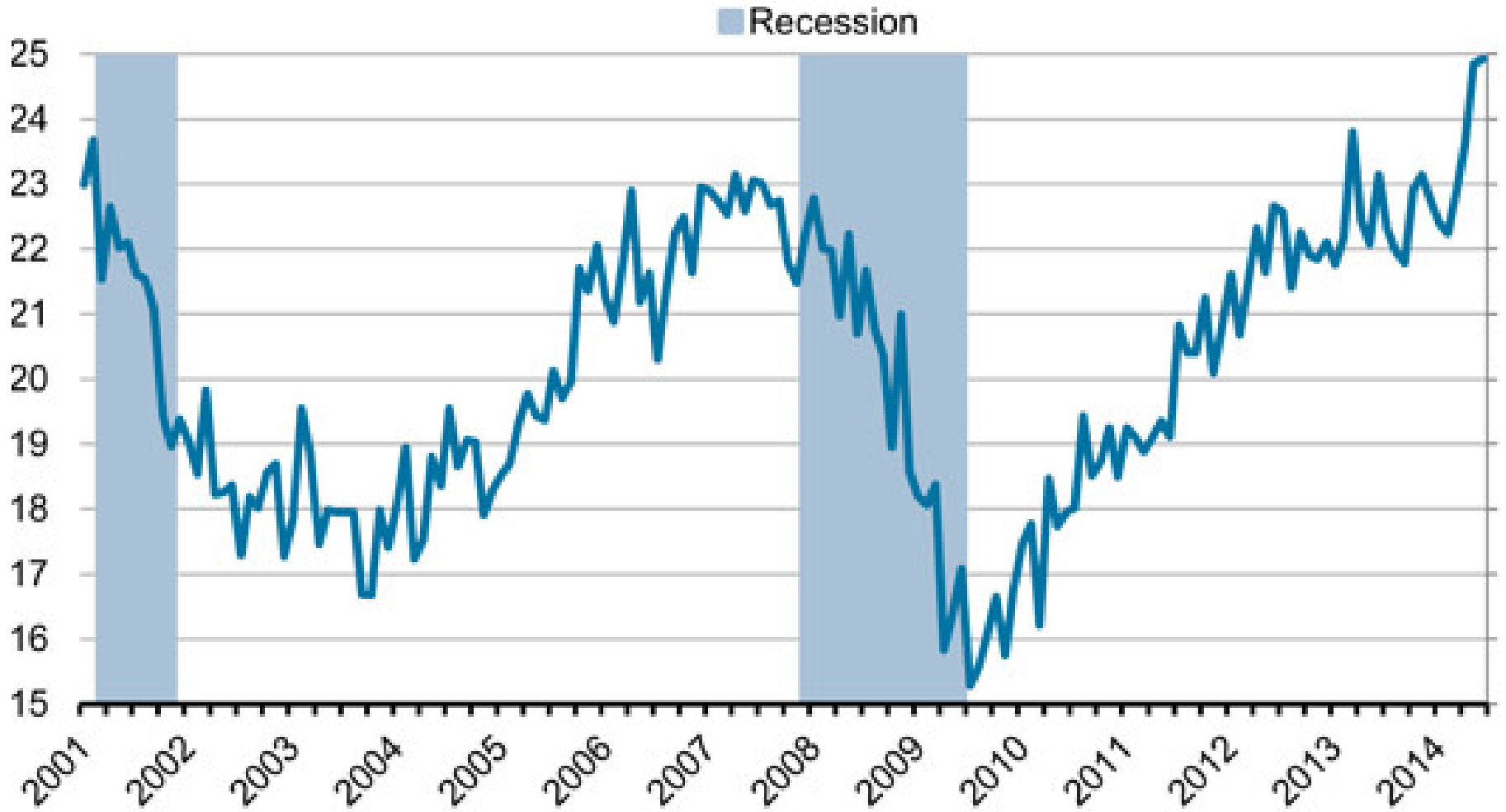
Percent change in number of jobs posted and number of hires, per month, since the end of the recession



Source: Department of Labor | WSJ.com

# Help *Still* Wanted

Average number of working days taken to fill vacant job openings



Source: Dice Hiring Indicators | WSJ.com

# US employers are No Longer Train their Employees.



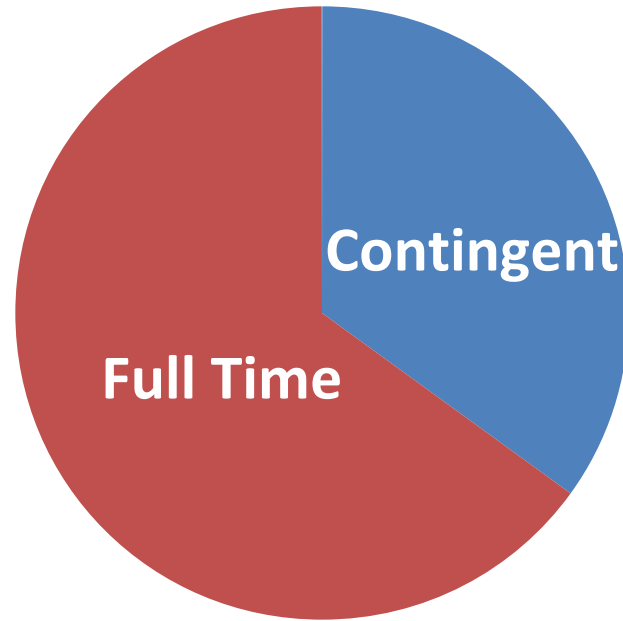
Apprenticeship programs are being abandoned. The number of apprentice programs registered with the Department of Labor declined to 21,000 in 2012 from 33,000 in 2002. The number of apprentices has plunged from 280,000 from 500,000 a decade ago.

In 2000, the pace of job creation in high-paying skilled skills slowed dramatically.

Canadian economists Paul Beadry, David Green and Benjamin Sand divided the US into 100 job categories. Since 2000, demand for highly educated workers fell off a cliff while job growth in low-paying occupations increased strongly.



# U. S. Workforce



GAO (September 2015 *Industry Week*) said there is a continued fervor for contingent workers – 40% and climbing rapidly

During the “economic recovery” of 2009-2011, **91%** of hires were temporary.

# Where ARE the IT Jobs?

Legacy

Startups

Government

Small  
Business

According to GAO, > 75% of the government's 63 billion IT budget is spent on maintaining legacy systems!

Federal Computer Week Aug 2015



Expensive 3-tiered architectures rather than the scalable hyper-converged solutions used in the worlds largest data centers.

# Legacy Cloud

New technologies such as adaptive analytics (increase operational efficiency and manage product defects in real time). Can't use with legacy infrastructure.

Cloud-first is necessary for hyper speed to market.

Moving to the Cloud is the preferred technology to get off legacy systems.

The only companies keeping legacy systems are those that only see IT as a cost center.

*Signs Legacy Systems aren't up to snuff: Shadow Initiatives - marketing setting up new systems on their own.*

# Quotes from fired CIO:

“We need to protect our proprietary data.”



“Foreign locations require customer data stored locally.”

# Quotes from fired CIO:



“We need to protect our proprietary data.”

Most company security budgets and security sophistication are dwarfed by Amazon’s and other large cloud service providers.

“Foreign locations require customer data stored locally.”

Cloud providers provide services that don’t cross international borders.

# Government IT is BIG Bucks

Federal Computer Week Aug 30 2015

GAO's OASIS (One Acquisition for Integrated Service)- \$60 billion contract vehicle for "integrated services". One year old.

It is for "Professional Services" – Consultants

# Top Ten Systems Integrators

(Federal Computer Week, Sept 30, 2015)

- Lockheed Martin,
- Northrup Grumman
- Boeing
- Ratheon
- Booz Allen Hamilton
- Computer Sciences Corp
- CACI International

Where are new IT products and services developed?

How do Tech Companies Grow so Fast?

# StartUps!

# The StartUp Crap Shoot



In a year,

- A VC gets ~600 “warm intros” from someone the firm knows.
- VC invests in 15.
- 10 will fold.
- 3 will prosper.
- 1 might soar to > billion dollars – a “unicorn” in VC parlance.

# Startups Ubiquitous



# Could You Work at a Startup?

- Agile - SCRUM
- Minimum Viable Products
- No Salary
- Cloud, Mobile and Social Media Technology
- Older than 24?
- Products with Zero Training
- Evolution: Cisco is a robotics company, Netflix is an encryption company.

# Security

Defense Department CIO Terry Halvorsen (Sept 20145 AFCEA Conference)

“DOD spends \$44 billion annually on cybersecurity.

Civilian DOD employees will do six-month rotations with private firms to learn the tricks of the trade.”

# Security

Federal Computer Week Aug 2015

Pentagon's 6200 new hires Cyber workforce initiative: stalled. Congress authorized DHS to pay cybersecurity experts more and give bonuses.

The Office of Personnel Management have identified cybersecurity has the highest risk skills gap.



# Security Skills in Demand

October 2015 SCMagazine, SecurityHeadhunter.com

Identity Management Security Engineer	\$120K - \$175K
Web Application Security	\$90K - \$135K
Health Care Information Security Analyst	\$90K - \$120K
Biometric Security Account Executive	\$200K – 300K
Senior Security Engineer	\$70K - \$130K
Security-Focused Product Manager	\$130K - \$150K

# Security Career Enablers



Information Systems Audit and Control Association



International Information System  
Security Certification Consortium

**EC-COUNCIL**  
**UNIVERSITY**

International Council of  
Electronic Commerce Consultants



THE CSFA IS A LEADING DIGITAL FORENSICS CERTIFICATION.

**Cyber Security Forensic Analyst**

# Local Job Sources

Clubs, Meetups, Hackathons



# Hudson Valley Tech Meetup



Kingston, NY

## Jobs Discussion Forum

- Python dev for project (could go permanent)
- FullCity Consulting is looking for a FileMaker & PHP Developer
- Junior Support Programmer
- iOS/Android Mobile Developer
- 2D/3D animation
- Available: Freelance iOS Developer (5-10hours/week)
- Technical Project Manager
- php MySQL
- Web Applications Developer
- Coder: Ruby + SQL + APIs + FE

# Local Job Sources

## Certifications & Associations

# Positions - Information Assurance

**Certified Ethical Hacker** EC-Council

**Certified in Risk and Information Systems Control** ISACA

**Certified Information Security Manager** ISACA

**Certified Information Systems Security Professional** (ISC)<sup>2</sup>

**Cyber Security Forensic Analyst** CyberSecurity Institute

**Certified Security Analyst** EC-Council

**Certified Penetration Tester** GIAC

**IS Security Engineering Professional** (ISC)<sup>2</sup>

# Positions – IT Compliance

**Certified Information Systems Auditor** ISACA

**Microsoft Certified Solutions Expert** Microsoft

**Project Management Professional** Project Management Institute

**Cisco Certified Design Associate** Cisco Systems

# Positions – Software Development

**Certified ScrumMaster** Scrum Alliance

**Certified Secure Software Lifecycle Professional** (ISC)<sup>2</sup>

**EC-Council Certified Secure Programmer** EC-Council

**Citrix Certified Professional — Virtualization** Citrix

**Certified Professional — Data Center Virtualization** VMware

Local Job Sources

Local Recruitment

# Mid Hudson Valley – *Body Renters*



**FAIRFAX**  
DATA SYSTEMS



**LODESTAR**  
mapping IT frontiers



**SUNRISE**  
SYSTEMS



**adaptivesystems**



**ctg**



**ZAR**  
Technology Consulting



**InnoMethods**



**NTT DATA**

# Mid Hudson Valley – *Offshore IT Sales*



**PERSISTENT**

Partners in Innovation



# Mid Hudson Valley – *Head Hunters*



# Local Job Sources

DICE

# Poughkeepsie Jobs - *Web*

**Web Technologies Software Engineer**

**Python Programmer - Full Stack**

**Full Stack LAMP Developer**

**Linux Engineer/Developer**

**Search Engine Specialist**

**Senior UI Developer**

**SCRUM Master**

**UI Developer**

dice.com 10/19/2015

# **Poughkeepsie Jobs - *Niche***

**Intrusion Detection & Analysis Engineer**

**Sr. Information Security Analyst**

**Data Analytics Specialist**

**Senior BigData Developer**

**IOS Developer**

# Poughkeepsie Jobs - *Legacy*

**SAP Integration & Test Engineer**

**JD Edwards Developer**

**Senior Oracle DBA**

**.Net Developer**

**Oracle DBA**

A group of men in historical military uniforms, likely from the Napoleonic era, are marching in a parade. They are wearing various styles of bicorne hats and jackets in shades of green, red, and blue. Several men are carrying large, round drums. The scene is set outdoors on a street with buildings in the background.

# Why Legacy Developers are SHUT OUT From Tech Hiring

You are Too Old

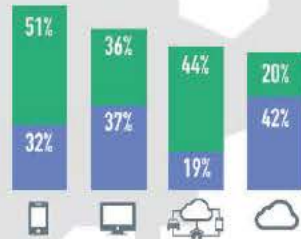
# Global Developers



Professional   Hobby or side project

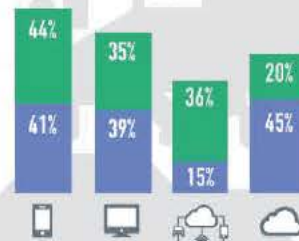
## North America

Average Developer Age: 34  
90% male



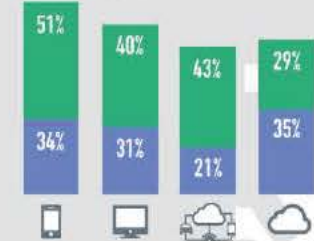
## Europe

Average Developer Age: 32  
96% male



## Asia

Average Developer Age: 27  
95% male



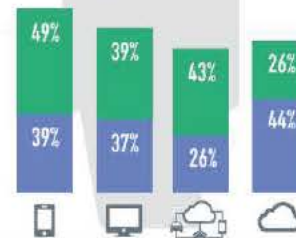
## South America

Average Developer Age: 30  
97% male



## Africa

Average Developer Age: 27  
91% male



## Oceania

Average Developer Age: 34  
93% male



## No Network at Dream Companies - 80% of jobs come from referral!



- Think back to the earlier conversation about ATS - recruiters do not want to sift through 1000's of applications.
- What normally happens is someone in the company mentions someone they have met and remembered. "I know a guy that would be perfect for this"
- Make a bucket list of the 10 companies that you really want to work for and start connecting with people in that company via LinkedIn.

# Resume Overdone

Show NO experience  
> 8 years Ago!

## RÉSUMÉ

THSON  
reet, Atlanta, GA 12345  
32.5678  
mithson@email.com

itive:  
isociation with professional gr  
vancement and professional g

il Experience:

ness Ltd., Goodville, NY - Or  
- consumer goods company

- Resumes need to be skimmable. Studies show that you have 6 seconds before the hiring manager moves on.
- No fancy fonts, no adjectives like “go-getter”, “highly organized” - these are subjective and are like nails on a chalkboard with recruiters.
- Lots of white space, simplify , be concise and clear.
- Quantify experience w numbers - ( I led a 30 person team over 2 years and increased profits by 37%)

# LinkedIn Profile Not Optimized



- According to LinkedIn, 50% of people do not have their profile optimized.
- Optimization helps you show up in recruiter searches.
- Take a job description - go to wordle.net - make a word cloud - see what the keywords are. Have those throughout your profile.

# Failure to Validate in Interview



**Don't Present Yourself  
like the person in  
Resume**

**Can't Backup  
Experience and Skills**

# Take Away For *Legacy* Developers



Be a humble 20 year old  
in attitude and skills.