

LinkedIn

Career Explorer

Data & Architecture

<http://career.linkedin.com>

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Stanford Chapter of ACM
November 12, 2010



Concept

- Features
- Architecture
- Data
- Challenges

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Connections: 159

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Concept

- Students/career changers want to know what they can do
- They want to make informed decisions



Concept

- Needs of student
- What if?
 - You knew what type of job people like you get
 - And where they go afterwards

LinkedIn has the data!



Features

- Path Chooser
- Statistical Trends

- Job Listings
- Group Discussions
- Who can help you get where you want to be?



Features

- Path Chooser
 - Major
 - Degree
 - Industry

 - University
 - Location
 - Years of experience



Demo

LinkedIn Go to LinkedIn Recruiter » Jeffrey Schang Add Connections

Home Profile Contacts Groups Jobs Inbox 38 Companies More People

Career Explorer beta

Career Path-1 Career Path-2 Career Path-3 Make another path

Your career path starting point

What is your major?

Expected degree?

Expected Industry?

Make sure this info is correct + click 'Start my path'

You are here!




Demo

LinkedIn Go to LinkedIn Recruiter » Jeffrey Schang Add Connections

Home Profile Contacts Groups Jobs Inbox **38** Companies More People

Career Explorer beta

Career Path-1 * Career F



Student »
Computer
Science,

	Time in job	Education	Salary
Software Engineer	3 yrs 5 mos	Bachelor's	\$54-82k
Intern	9 mos	Bachelor's	\$22-32k
Software Development Engineer	3 yrs 4 mos	Bachelor's	\$55-83k
Software Developer	3 yrs 1 mo	Bachelor's	\$54-82k

I'm done setting up this path
Launch the dashboard now »



Demo

LinkedIn Go to LinkedIn Recruiter » * Jeffrey Schang [Add Connections](#)

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Career Explorer *beta*

Career Path-1 Career Path-2 * Career Path-3

	Student » Computer Science,	Software Development Engineer 83k »
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Now choose your next step. These are common titles for this stage in your career.

Software Engineer		
Time in job	Education	Salary
3 yrs 5 mos	Bachelor's	\$54-82k
Senior Software Engineer		
Time in job	Education	Salary
3 yrs 10 mos	Bachelor's	\$79-109k
Project Manager		
Time in job	Education	Salary
4 yrs	Bachelor's	\$55-87k
Web Developer		
Time in job	Education	Salary
2 yrs 3 mos	Bachelor's	\$41-63k

[I'm done setting up this path](#)
[Launch the dashboard now »](#)



Demo

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Career Explorer *beta*

Career Path-1 Career Path-2 * Career Path-3 [Make another path](#)

	Student » Computer Science, »	Software Development Engineer 83k »	Senior Software Engineer 109k »
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Choose one more step
- we're almost done!



Job Title	Time in job	Education	Salary
Software Engineer	3 yrs 5 mos	Bachelor's	\$54-82k
Project Manager	4 yrs	Bachelor's	\$55-87k
Software Developer	3 yrs 1 mo	Bachelor's	\$54-82k
Principal Software Engineer	5 yrs 3 mos	Bachelor's	

I'm done setting up this path
[Launch the dashboard now »](#)



Demo

Software Development Engineer 83k » Edit Senior Software Engineer 109k »

Software Development Engineer
Education: Bachelor's Degree Salary: \$55-83k Time in job: 3 yrs 4 mos

People Companies

People with this title
Connect with them to build your network.

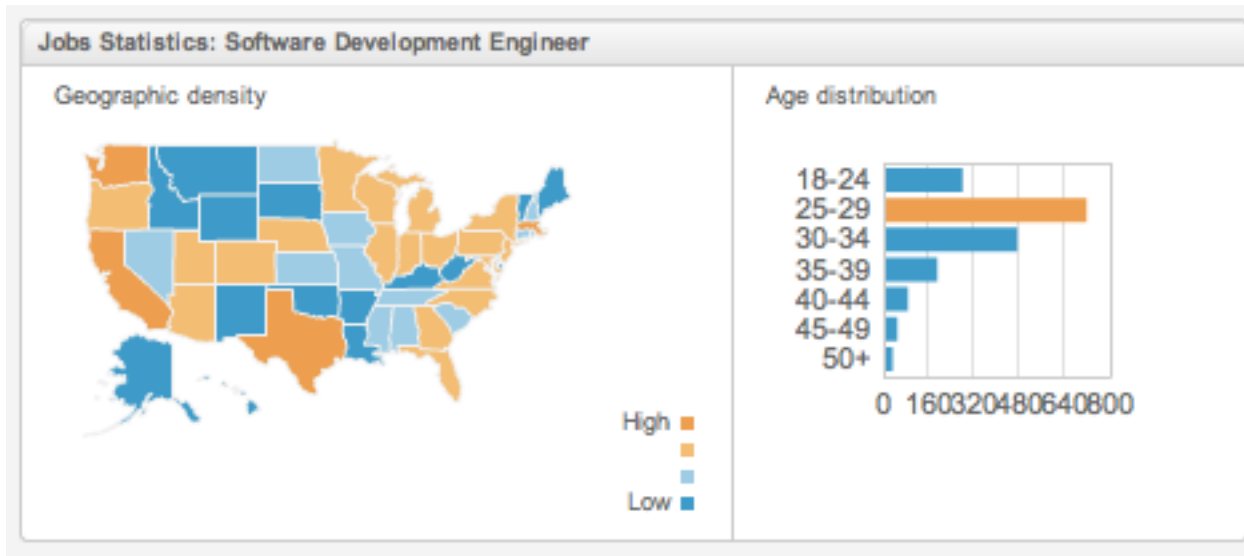
- Dan Sully**
Principal Software Engineer at LinkedIn
[Connect](#)
- Abdur Rehman Pathan**
Software Development Engineer at NextLabs, Inc.
[Connect](#)
- Joe Longson**
Senior Animation/UI Software Engineer
[Connect](#)
- Rupsha Chaudhuri**
Technical Yahoo, Systems Software Development Engineer
[Connect](#)

[See more »](#)

VP, Global Retail Kindle, WW Business



Demo

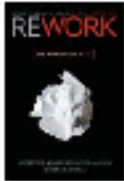


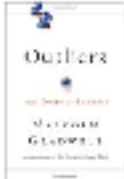



Demo

Software Development Engineer Reading List

ReadingList by amazon

 **Rework**
[See this book on Amazon »](#)


 **Outliers: The Story of Success**
[See this book on Amazon »](#)

 **Good to Great: Why Some Companies Make the Leap... and Others Don't**
[See this book on Amazon »](#)



Demo




Intern Jobs




Intern

Broadcom - Hsinchu City - Nov 11, 2010

▶ Find people in your network at Broadcom

 <p>Sanjay Kumar Product Marketing Professional 2nd</p>	 <p>Trent Bartow Cellular Product Line Manager at Broadcom Corp. 2nd</p>	 <p>Russ Oeser Contract Recruiter at Broadcom via Morgan Staffing 2nd</p>
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[View all 32 people](#)




Intern in Brand, Strategy & Planning Team Europe

eBay - Zurich - Nov 10, 2010

▶ Find people in your network at eBay

 <p>Alan Cole Sr. Compensation Analyst at eBay 1st</p>	 <p>Stephanie Tilenius Vice President of Commerce, Google 2nd</p>	 <p>James Barrese VP, Technology at eBay 2nd</p>
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[View all 366 people](#)



Intern for IT PMO Department

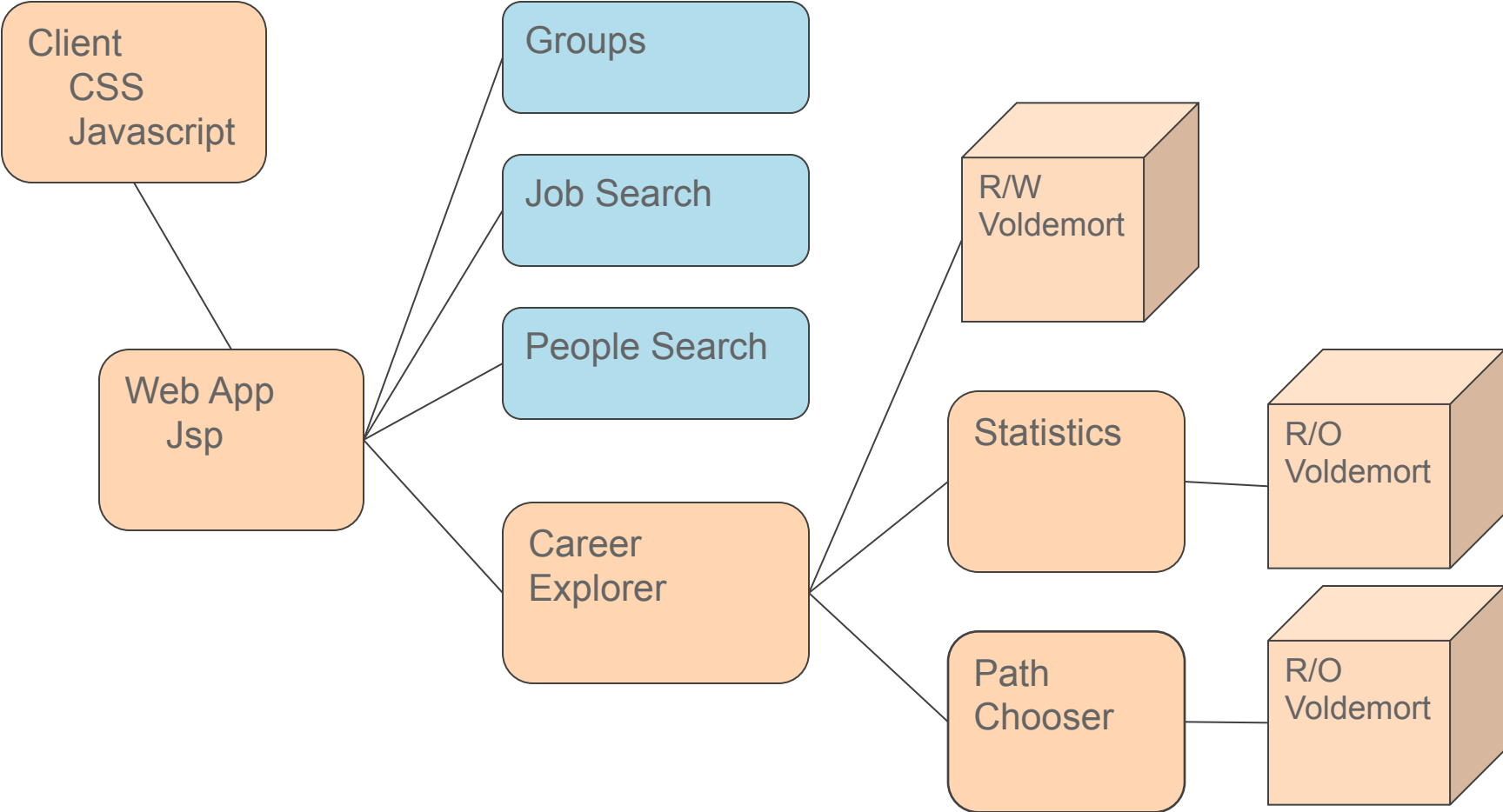
Level One Communications - Broomfield, CO 80021 - Nov 9, 2010

▶ Find people in your network at Level One Communications

You have no connections to Level One Communications. [Add connections to expand your network.](#)



Architecture





Data

- No two people are alike
 - Different majors
 - Different industries
 - Different experiences

How to forecast?

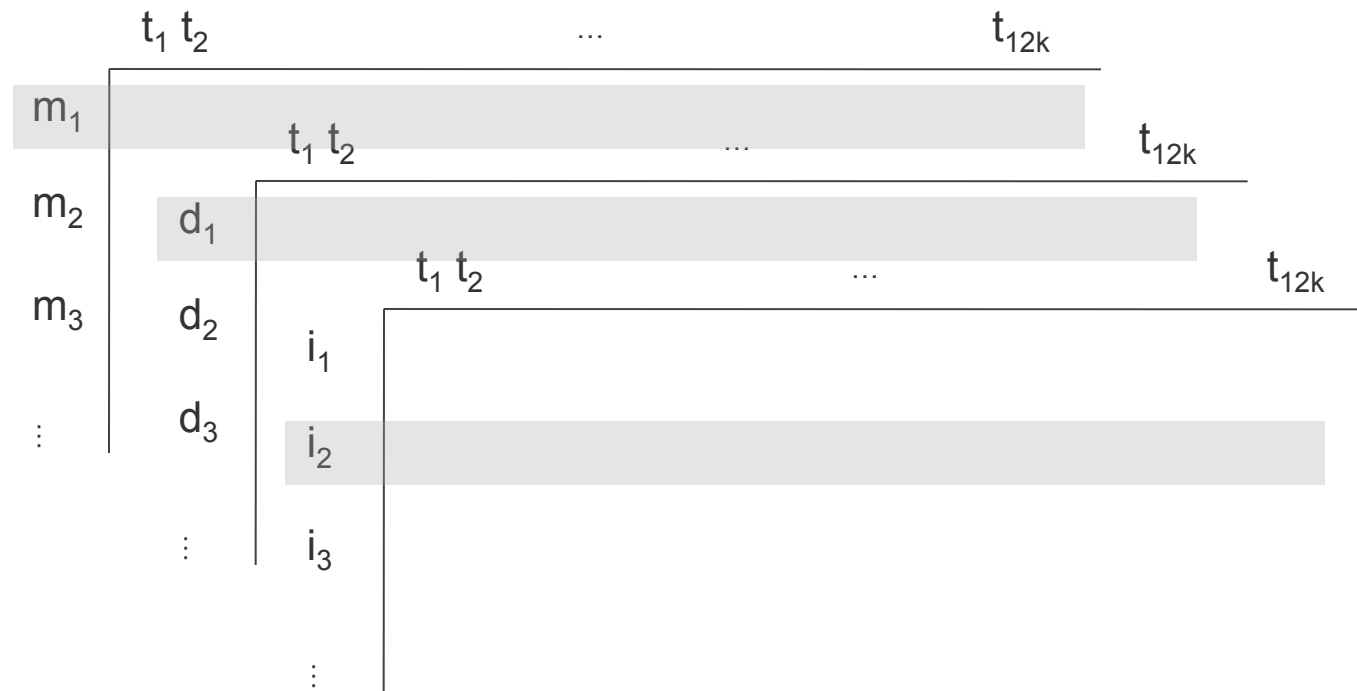


Data

- We choose a naïve Bayesian statistical model – combine probabilities of up to 7 parameters:
 - 1) For a given parameter, calculate the probability of the next job (about 12,000 standardized job titles)
 - 2) For each job title, multiply the probabilities of all the parameters and normalize



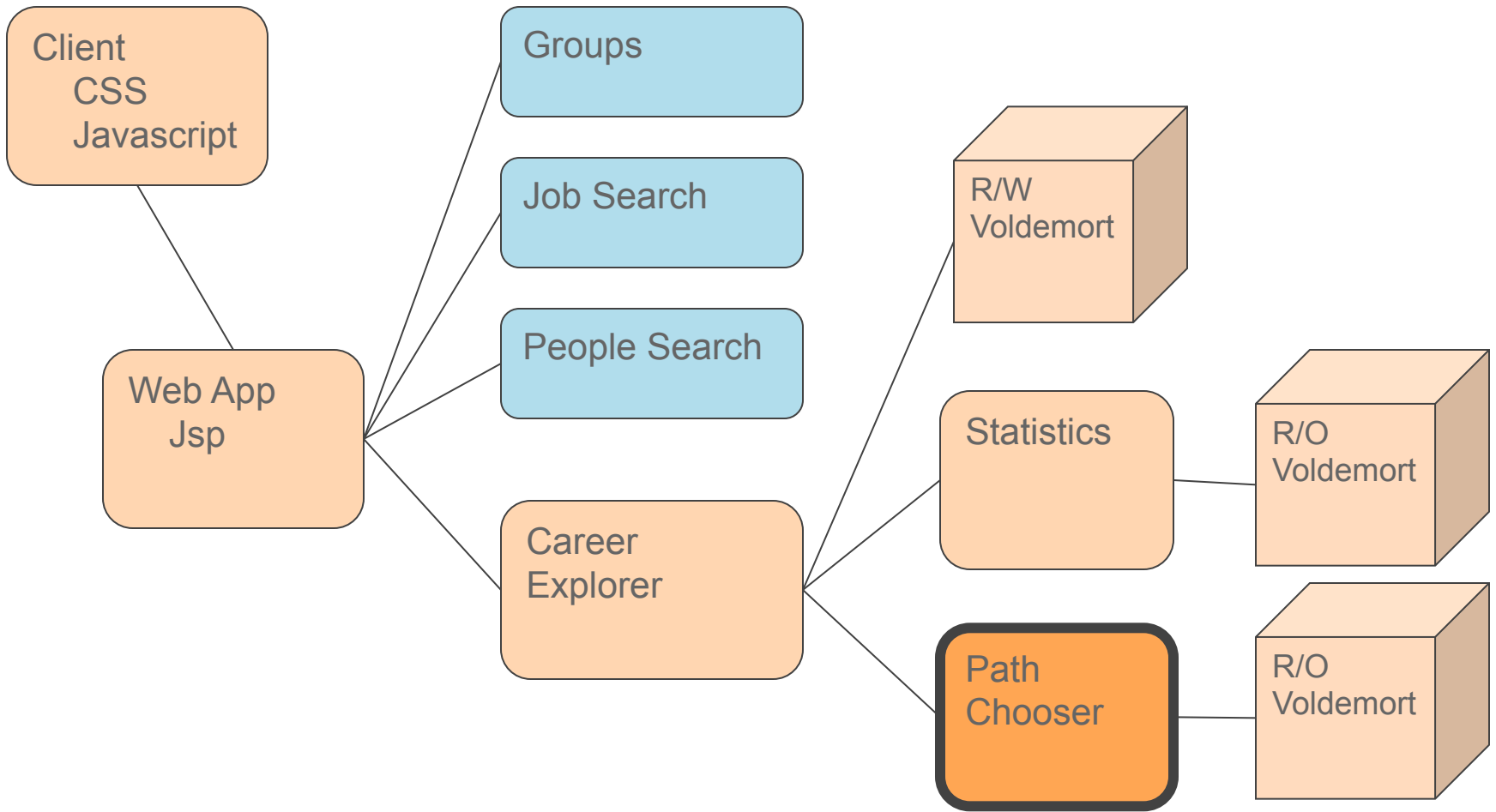
Data



Processing: multiply up to 7 rows of 12k items, < 20 ms



Architecture





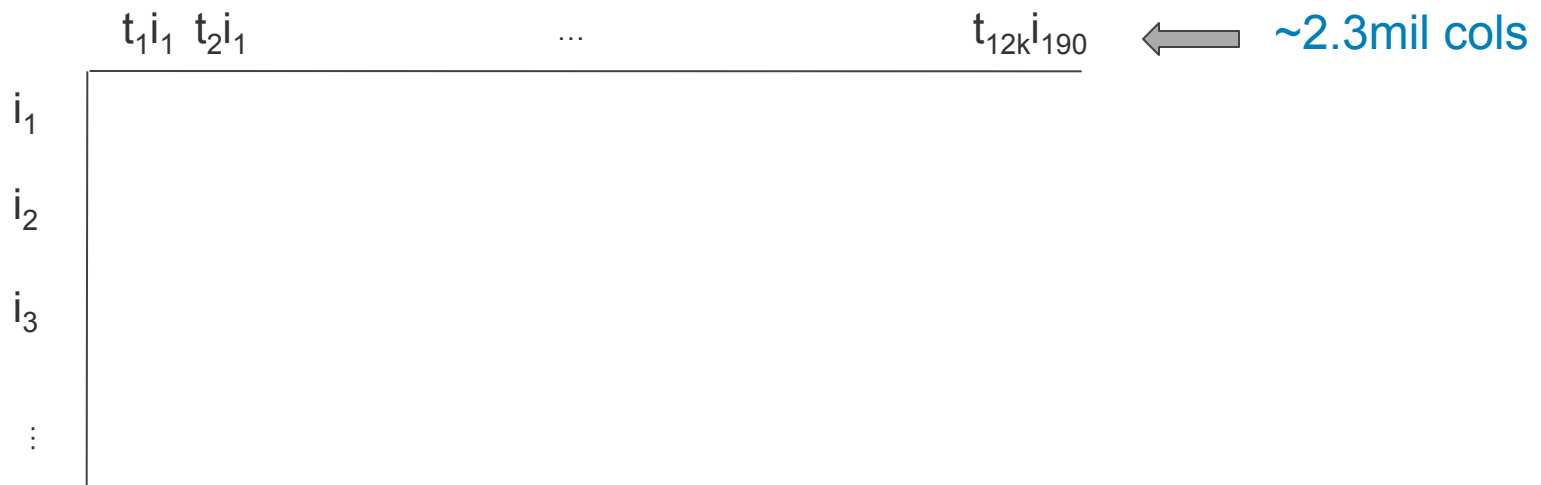
Challenges

- Are the forecasts realistic?
 - Often top titles are generic title (e.g. Intern, Account Manager)
 - Then next title is also generic (e.g. Owner, V.P.)
 - Overweighting of technology professionals
 - Generic title is specific to industry



Solution

- How to make forecasts realistic?
 - Title is actually a compound key with industry





Solution

- 2.3 million columns per parameter:
 - Now too much computation per request
 - I/O per request
 - Also size of data tables getting expensive



Solution

- Only use the compound key for generic titles that span many industries
 - Reduces columns to approximately 240k
 - Processing per request: 15 ms I/O, 35 ms calculation



Summary

- Groundbreaking tool for career planning – unlike anything else out there
- Made possible through the combined data of LinkedIn's 80,000,000 members



Q & A

Linked 

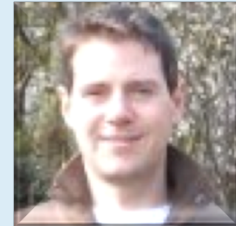
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