



Site Reliability Engineering



MAJOR LEAGUE HACKING

# Building a Diverse SRE Talent Pipeline

# Hey, we're Salim and Alex!



 @googlesre



Site Reliability Engineering



 @MLHacks





Site Reliability Engineering



MAJOR LEAGUE HACKING

# Building a Diverse SRE Talent Pipeline

# Our action-packed 35 minutes



# Key Takeaways

- 1) Core elements of a successful training program
- 2) Resources to administer and support the program
- 3) The impact of training programs on diversity
- 4) How you can leverage what we learned building the MLH community & Fellowship

# MLH powers the largest community of early career developers.

**115,000+**

Annual Community Members

**625,000+**

Total Community Members

**1/3**

Of US CS grads are in the MLH community





# The SRE Landscape

Production  
Engineering

Site  
Reliability  
Engineering

DevOps



# The Challenge of Building a Diverse SRE Pipeline



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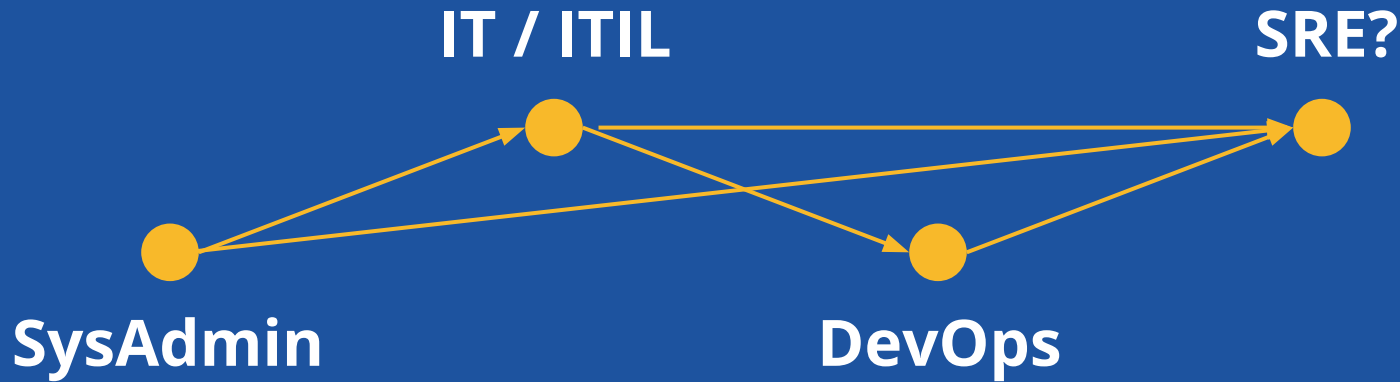




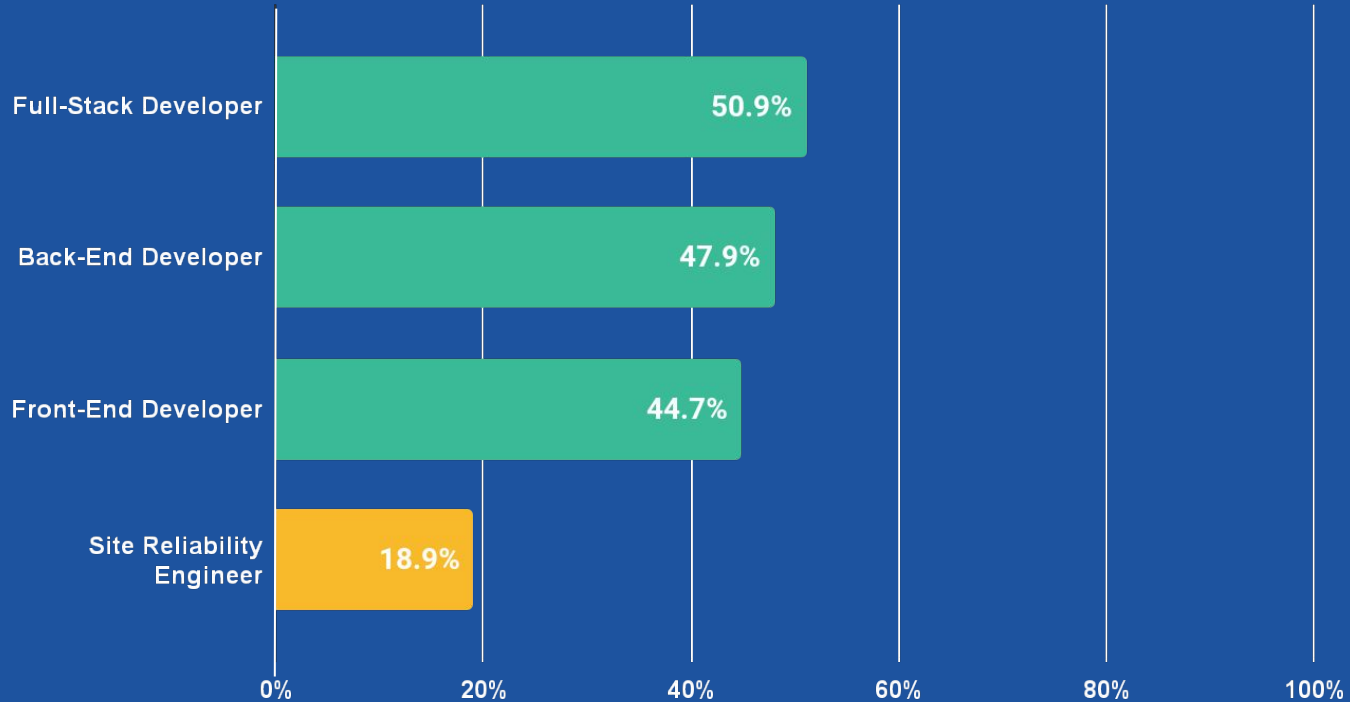
**SRE hiring  
presents multiple  
layers of  
challenges.**

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# SRE still isn't mainstream with early-career developers.



# The SRE Interest Gap



% Reporting Interest

n = 6,165 respondents




# There isn't a defined pipeline for SREs.



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**There's an opportunity  
and equity gap.**

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**We can do better.**

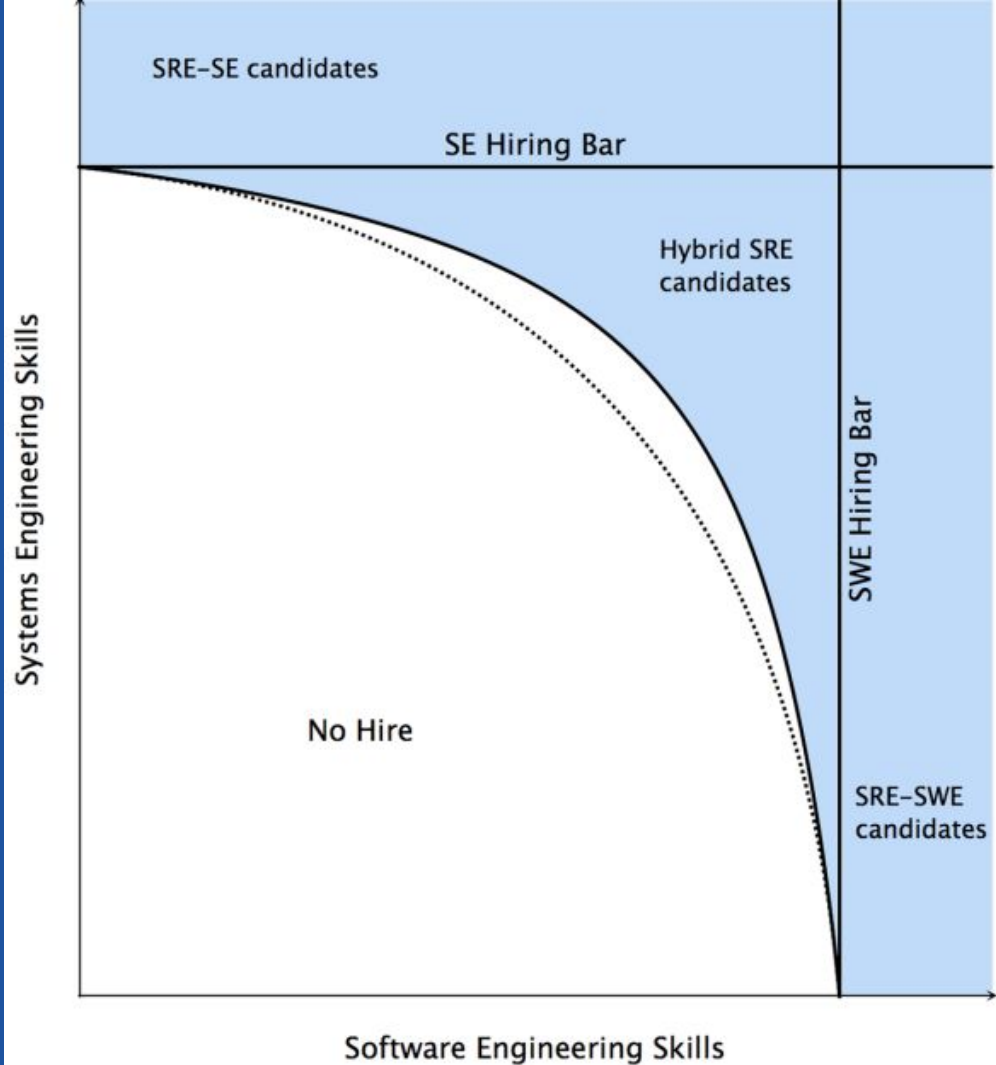
Image source: <https://unsplash.com/photos/5hvn-2WW6rY> //  
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# How can we make a difference?

- ★ Look for candidates everywhere
- ★ Assess for skills and aptitude
- ★ Provide Fellowship opportunities to applicants
- ★ Upskill your team with on-the-job training

# What makes an SRE?

Illustration from "Hiring Site Reliability Engineers"  
[https://www.usenix.org/system/files/login/articles/login\\_june\\_07\\_jones.pdf](https://www.usenix.org/system/files/login/articles/login_june_07_jones.pdf)





# At Google we've implemented different programs each focused on a specific aspect of our pipeline.

Program	Length	Focus Area	Requirements
<i>Mission Control</i>	6 months	SRE	Must already be employed at Google
<i>Google Internship</i>	10–12 weeks	SRE	Must be in a degree program
<i>Google Apprenticeship</i>	18–24 months	SRE	—

# Other industry programs aren't always accessible.

IT & Software > Other IT & Software > DevOps

## SRE - The Big Picture

DevOps in practice! Amaze your customers balancing reliability and innovation

4.2 ★★★★★ (1,738 ratings) 5,866 students

Created by [Anderson Carvalho](#)

🌐 Last updated 10/2020 🌐 English 🗨️ English, Portuguese

### What you'll learn

- ✓ The origin of SRE
- ✓ SRE concepts like: SLO, SLA, SLI, Error Budgets...
- ✓ What a SREngineer does and what you need to become one
- ✓ Why SRE is important
- ✓ The SRE principles and practices
- ✓ SRE team models

## Site Reliability Engineering (SRE) Foundation<sup>SM</sup>

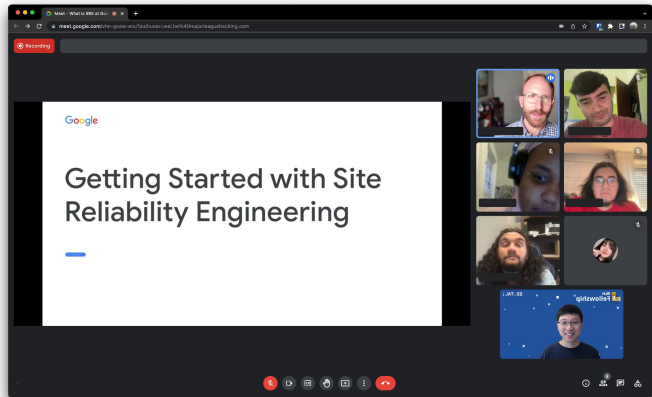
BUY EXAM

FIND AN AUTHORIZED PARTNER



# MLH Fellowship

Build a more diverse SRE pipeline with **the next generation of developers.**



**Good for students.**  
**Good for you.**  
**Good for the future of tech.**

# How does it work?



**Sourcing &  
Screening**



**Smart  
Matching**



**Technical  
Mentorship**



**Program  
Management**



# Benefits of the Fellowship



**Diversity &  
Inclusion**



**Broadening  
Reach**



**Overhead  
Management**



**Cost & Ops  
Efficiency**

**2.5x**

**More gender-diverse than  
average CS Classroom**

**>90%**

**Of participants outside of top  
10 recruited universities**

# What We Learned





**The pod structure  
provides a communal  
learning experience.**

**Combine traditional curriculum with a hands-on project to build and reinforce key SRE skills.**

# Fellowship SRE Curriculum

**Week 1**

Orientation Hackathon

**Week 2**

Linux Fundamentals

**Week 3**

Scripting

**Week 4**

Databases

Services

**Week 5**

Testing

**Week 6**

Containers

**Week 7**

Content Buffer

**Week 8**

CI/CD

**Week 9**

Monitoring

Networking

**Week 10**

Troubleshooting

**Week 11**

Content Buffer

**Week 12**

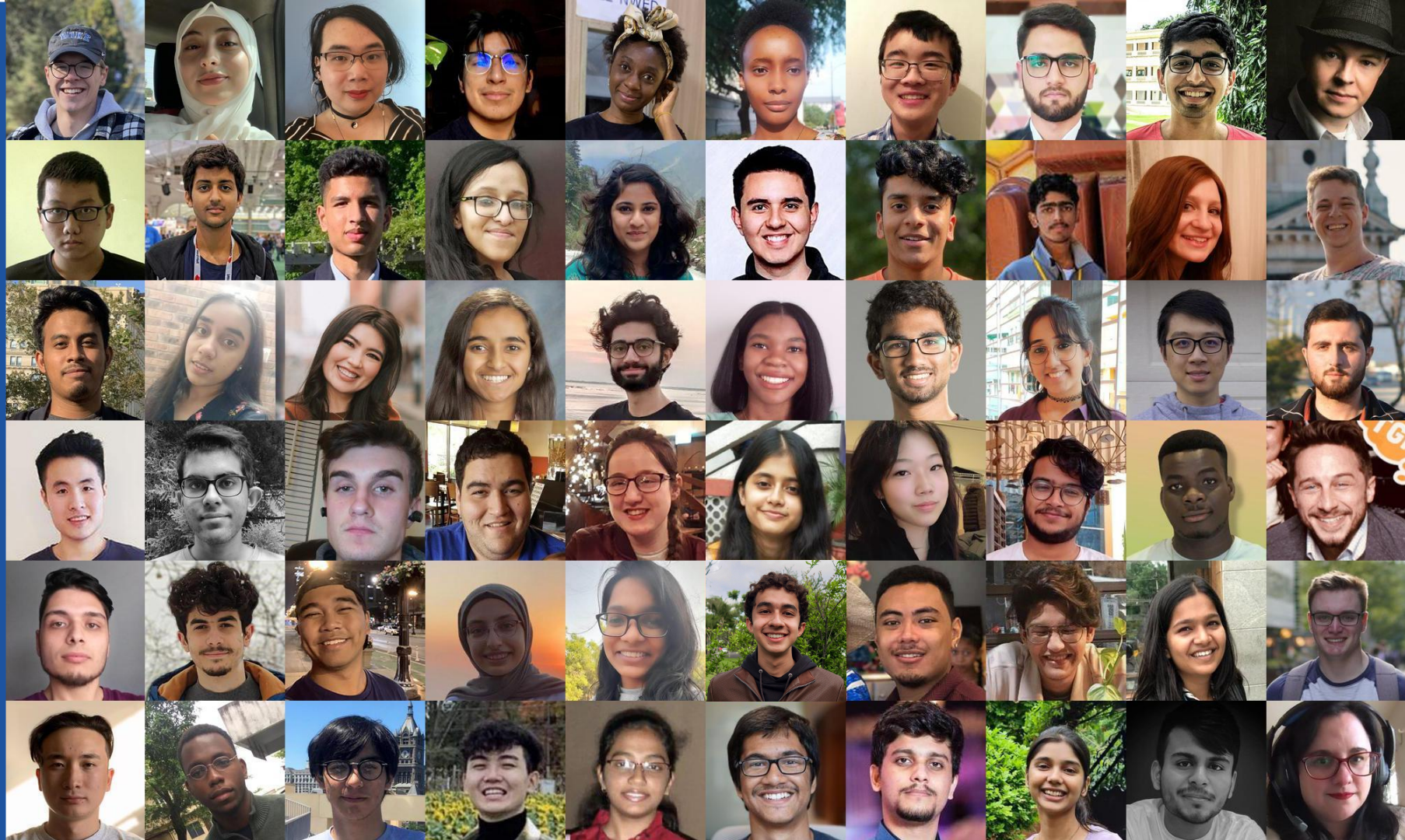
Capture the Flag

Project



**Multiple layers of mentorship and support enhance Fellow learning and experience.**





# How do we measure success?

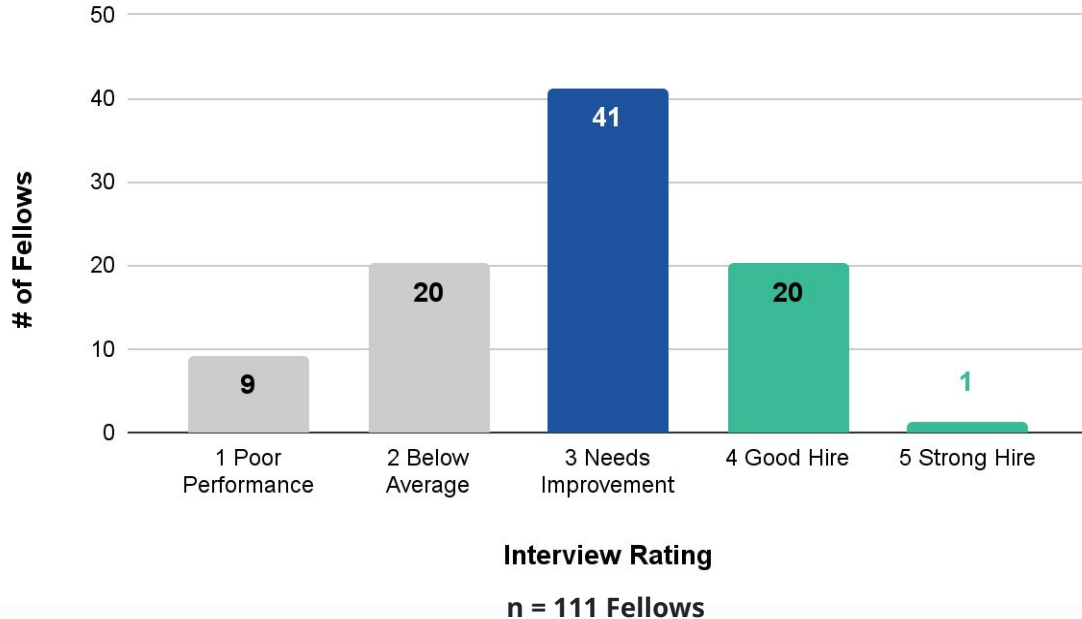
Focus Area	Success Definition
SRE Knowledge	Do program graduates have a <b>deeper understanding</b> of the day-to-day responsibilities of an SRE and what a career in the field looks like?
SRE Interest	Do program graduates have a <b>new or continued interest</b> in pursuing a career in SRE?
SRE Career Readiness	Do program graduates have the <b>foundational skills</b> they need to launch careers in SRE?

# At the end of the program, graduates are more prepared for a career in SRE.

Prompt	Week 1	Week 12	Delta
<i>I have a good understanding of what an SRE does day-to-day.</i>	<b>49%</b> agree	<b>95%</b> agree	<b>+46%</b>
<i>I know what SRE looks like as a career path.</i>	<b>62%</b> agree	<b>96%</b> agree	<b>+34%</b>
<i>I know what skills I need to succeed as an SRE.</i>	<b>53%</b> agree	<b>97%</b> agree	<b>+44%</b>
<i>I think of SRE as a good career path for me.</i>	<b>71%</b> agree	<b>83%</b> agree	<b>+12%</b>

# Regular coding challenges and multiple mock interviews prepare Fellows to launch SRE careers.

## SRE Mock Interview Performance



**23.1%**

Of Fellows passed final mock interview

**45.1%**

Of Fellows in position to pass



# Fellow Spotlight

“ I’m sad I won’t be joining for the Fellowship for another round. However, I’m even happier to share that the reason I won’t be coming back is because I received a full-time internship offer at Intel. I’ll be working with DevOps tools, and **there’s no way I would have received this offer if I hadn’t been a part of the Fellowship.**”



**Han Rodríguez**

*2022 Fellowship Graduate*

# Fellow Spotlight

“ Before the Fellowship, I wouldn't have considered myself ready for roles beyond SWE.

As part of the program, though, **I had access to the resources and mentorship I needed to prepare for SRE roles**, and now I'm starting a DevOps and Cloud Engineering internship!



**Roa Brahimi**

*2022 Fellowship Graduate*



**This program opens  
the door for candidates  
of all backgrounds.**

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# Crafting an SRE Training Program



Create a communal learning environment



Take a skills-based approach



Provide dedicated mentorship



# Q & A

