New Grads Becoming New SREs

Catalyzing a “Circle of Life” in Ireland

Catalina Rete • Jennifer Petoff

sre.google • twitter.com/googlesre
Jennifer Petoff (aka Dr. J)

Hello
my name is

• Ph.D. in Chemistry
• 16 years at Google
• Lead the Google Cloud Platform and Technical Infrastructure Education team
• Co-editor of the Site Reliability Engineering (SRE) Book
• Founded the #GoogleTechIE Uni Outreach Program
• Part-time Travel Blogger at Sidewalk Safari
• [I have a minor obsessions with photographing doors...]

Presented: Oct 10, 2023
Hello my name is Catalina Rete

- Computer Science graduate from Trinity College Dublin
- 3 internships in Google Dublin & Google Zurich
- 2 years at Google
- Software Engineer in AdsML SRE in Google Dublin
- Active participant of #GoogleTechIE Uni Outreach Program
- Have a strong passion for arts & crafts with a new hobby every week!
Can we bootstrap new grads into new SREs?
What was our starting point?
What was our starting point?
Key Challenges Identified
Key Challenges Identified

Applicants
Key Challenges Identified

Applicants

Resume/CV Quality
Key Challenges Identified

Applicants

Resume/CV Quality

Interviews
Key Challenges Identified

- Applicants
- Resume/CV Quality
- Interviews
- Bandwidth
Hypotheses Formulated
Hypotheses Formulated

Applicants
1. Students aren’t aware that Google hires engineers in Ireland
2. Students are afraid of the interview process
3. Students don’t know what SRE is
Hypotheses Formulated

**Applicants**
1. Students aren’t aware that Google hires engineers in Ireland
2. Students are afraid of the interview process
3. Students don’t know what SRE is

**Resume/CV Quality**
1. Students aren’t getting practical coding experience outside of the classroom
2. Students are not trained on how to write a compelling CV
3. Students are difficult to assess ‘on paper’
Hypotheses Formulated

Applicants
1. Students aren’t aware that Google hires engineers in Ireland
2. Students are afraid of the interview process
3. Students don’t know what SRE is

Resume/CV Quality
1. Students aren’t getting practical coding experience outside of the classroom
2. Students are not trained on how to write a compelling CV
3. Students are difficult to assess ‘on paper’

Interviews
1. Students aren’t getting practical coding experience outside of the classroom
2. Students not talking thru their thought process
3. Not enough experience coding ‘on the spot’
4. Students get nervous
Hypotheses Formulated

Results will improve if we invest more effort
Proposed Solutions

Applicants
- Large-scale Open House and Campus Tech Talks
- CV Skills Workshop
- Algos Workshops and Code Retreats
- Support Coding Competitions
- Focus on internships
Proposed Solutions

Applicants
- Large-scale Open House and Campus Tech Talks
- CV Skills Workshop
- Algos Workshops and Code Retreats
- Support Coding Competitions
- Focus on internships

Resume/CV Quality

Interviews

Bandwidth

Results will improve if we invest more effort
How far have we come?
How far have we come?

Year 0 1 2 3 4 5 6 7

Internships
placements

Full-Time Roles
What we learned
(and who we met along the way)
1. Networks & social media are important amplifiers

**Dedicated Hashtag**

#GoogleTechIE gave students a channel to follow for information about events and placements.

**Cultivating Contacts**

Among faculty and career services at universities and institutes of technology across Ireland helped get the word out.

**Connecting on LinkedIn**

Encourage students to connect on LinkedIn to forge deeper connections and to drive awareness.

**Taking Time to Reply**

To inquiries from those who take the time to connect helps build trust and helps students feel supported.
Path to Google:

**Adam Gillessen**

Google Dublin

- BSc. Computer Science (UCC)
- Internship in DCU
- Internship in Google
- SRE at Google - AdsML SRE
- Tech Lead | Staff SRE
- Algorithms Workshop
- Open House
- IrlCPC* (All Ireland Coding Competition)
2. Accept a little bit of toil for the greater good

Treat people as individuals
Reply to inquiries, help where you can.
This is not a classic SRE “cattle not pets” situation.

Follow-up w/ successful students
Congratulate those who get and/or accept an offer.

Follow-up with the others
Who were not selected after interviewing or who declined your offer.

Keep meticulous records
To show incremental progress in the short term while recognizing that we are in this for the long haul.
3. Take steps to build a diverse pipeline

**Look beyond the “top” schools**
Cast a wide net and be inclusive about the schools you build relationships with. Don’t just focus on the very top academic institutions.

**Partner with student groups**
Research student groups aligned with populations under-represented in Tech.

**Show up at events**
e.g., Women in STEM events, International Women’s Day Events.

**Leverage employees from URGs**
who can be role models to the students you’d like to recruit.
Path to Google:

Catalina Rete
Google Dublin

Undergrad & Masters in Computer Science

Open House

Join full time As Site Reliability Engineer

6 months SRE internship @ Google Dublin

3 months SWE internship @ Google Zurich

3 months SRE internship @ Google Dublin

Intern @ Intel Ireland

Presented: Oct 10, 2023
Path to Google:
Hung-Chuan Huang
Google Dublin

- Undergrad Computer Science @TUD
- 3 months SWE internship @ Google London
- 6 months SRE internship @ Google Dublin
- Intern @ Peking University Software Engineering
- Join full time As Site Reliability Engineer
- 2 years at Google in Sept 2023
- Google Ireland Algos Workshop

Presented: Oct 10, 2023
4. Volunteers & role models are critical to success

Activate recent grads
- e.g., host panel discussions with recent grads

Utilize alumni networks
- e.g., appoint alumni champions to work with their schools

Inspire: “I could do that!”
- Help current students see what’s possible and to see themselves in the volunteers sent to campus

Demystify what the role is like
- Engineering/SRE volunteers talk about what they do and help build excitement about internships and full time roles
Path to Google:

Daniel Crawford

Google Dublin

- Electric Guitar Tutor
- Computer Science Degree as Mature Student
- Open House Internship as SRE
- Joined Search SRE, became Capacity TL
- Joined Google as SRE-SWE in Crawl SRE
- Internship as SWE
- Moved to managing Visual Journeys SRE
- Internship as SRE
5. Be a good partner (but be willing to ‘go rogue’)

Make friends with your Staffing team
You need their expertise, their processes, and their support in order to be successful

Recruit a recruiter
...to join your core team

Ask for forgiveness...
...rather than permission

Convince the skeptics
Understand why they are skeptical and then bring data that demonstrates small and steady progress.
6. Play the long game while demonstrating short term “wins”

Focus on intern recruiting

The stakes and barrier to entry tend to be lower. Placements give students hands-on experience that will help them be successful in industry once they graduate.

“Convert” your interns to full time hires

after one internship (or 3!) or even a few years after graduation.

Promote “feeder” roles

SRE might not be the right role for some students immediately after graduation. Are there other roles they may be more suited to now that may lead them to SRE down the road?

Communicate incremental progress

in driving applications... in number of interviews... in interns hired... in full time hires. Do this at least once a year.
Path to Google:

Sophie Crowley

Google Dublin

1 year at Google in Oct 2023

Full-time SRE @ Google Dublin

Computer Science Masters

3 month SRE internship @ Google Dublin

3 month STEP internship @ Google Dublin

3 month SWE internship @ Google London

Algos Workshop

Computer Science, Linguistics, and French Degree
Path to Google: Cathal Weakliam

Google Tokyo

coding club & online courses

Software Engineer, Google Search

Software Engineer, Google Assistant

graduate, move to Tokyo

enroll BSc Computer Science (UCD)

Google SWE internships (MTV, ZRH)

Google STEP internship (DUB)

On-campus Tech Talk

IrlCPC

Presented: Oct 10, 2023
Path to Google: **Sulla Montes**
Google Dublin

- Undergrad in Computer Science
- SWE Intern @ Google London
- STEP Intern @ Google Dublin
- Cluster Lifecycle SRE-SWE @ Google Dublin
- Google Fit SWE @ Google London
- 3 years at Google
- Open House
- Algos Workshop
- SWE Intern @ Google London
- Google Dublin
## 7. Take a broad view of success

<table>
<thead>
<tr>
<th>Location</th>
<th>Role</th>
<th>Timing</th>
<th>Elevating the profession</th>
</tr>
</thead>
<tbody>
<tr>
<td>We were focused on recruiting from schools in Ireland, but success = placing a student anywhere in the world</td>
<td>We were focused on recruiting for SRE roles, but success = placing a student in a wide range of engineering roles.</td>
<td>We were focused on recruiting new grads but success = hiring any students who engaged with our programs even after graduation.</td>
<td>We were focused on recruiting for Google, but we considered it a success if a student pursued SRE as a profession anywhere.</td>
</tr>
</tbody>
</table>
Path to Google:
Oisín O’Dwyer
Google Munich

Competitor in Google IE’s Call to Code

Site Reliability Engineering (SRE)

Google SRE Internship (Remote)

Google STEP Internship (ZRH)

B.Sc Computational Thinking @ Maynooth University

Competitor in Irish Collegiate Programming Competition

International Olympiad in Informatics Contestant

Site Reliability Engineering Internship (Remote)
Presented: Oct 10, 2023

Path to Google:
Aidan Molloy
Google Dublin

* IrlCPC = All Ireland Coding Competition #GoogleTechIE was a sponsor
Path to Google:
Laura Hennessy
Google Dublin

Bachelor of Science in Information Technology (W.I.T)

3 months Rotation as Program Manager @ Google Dublin 2021

7 Months Internship @ Google Dublin 2019

3 years at Google as of August 2023

Technical Program Manager @ Google Cloud Dublin 2022 - Present

Corporate Operations Engineer Techstop 2022

Join Full Time As Information Technology Resident Techstop 2020

Open House
7. Take a broad view of success | “winning”

<table>
<thead>
<tr>
<th>Location</th>
<th>Role</th>
<th>Timing</th>
<th>Elevating the profession</th>
</tr>
</thead>
<tbody>
<tr>
<td>We were focused on recruiting from schools in Ireland, but “winning” = placing a student anywhere in the world</td>
<td>We were focused on recruiting for SRE roles, but “winning” = placing a student in a wide range of engineering roles.</td>
<td>We were focused on recruiting new grads but “winning” = hiring any students who engaged with our programs even after graduation.</td>
<td>We were focused on recruiting for Google, but we considered it “winning” if a student pursued SRE as a profession</td>
</tr>
</tbody>
</table>
7. Take a broad view of success | “winning”

- **Location**
  We were focused on recruiting *from* schools in Ireland, but “winning” = placing a student anywhere in the world.

- **Role**
  We were focused on recruiting for *SRE roles*, but “winning” = placing a student in a wide range of engineering roles.

- **Timing**
  We were focused on recruiting *new grads* but “winning” = hiring any students who engaged with our programs even after graduation.

- **Elevating the profession**
  We were focused on recruiting *for Google*, but we considered it “winning” if a student pursued SRE as a profession.
8. Make it Self-Sustaining
Can we bootstrap new grads into new SREs?
Can we bootstrap new grads into new SREs?

Yes!
Key Takeaways
Key Takeaways

- SRE may not be routinely taught in the classroom...
Key Takeaways

- SRE may not be routinely taught in the classroom...

...but that isn’t an insurmountable obstacle to new grad hiring
Key Takeaways

● SRE may not be routinely taught in the classroom...
  ...but that isn’t an insurmountable obstacle to new grad hiring

● Awareness raising + skill building
Key Takeaways

- SRE may not be routinely taught in the classroom...
- ...but that isn’t an insurmountable obstacle to new grad hiring

- Awareness raising + skill building = A Winning Formula
Key Takeaways

- SRE may not be routinely taught in the classroom... but that isn’t an insurmountable obstacle to new grad hiring

- Awareness raising + skill building = A Winning Formula

- Can you bootstrap new grads into new SREs?
Key Takeaways

● SRE may not be routinely taught in the classroom... ...but that isn’t an insurmountable obstacle to new grad hiring

● Awareness raising + skill building = A Winning Formula

● Can you bootstrap new grads into new SREs?

yes! If you are willing to put in the effort...
Tutorials

**Distributed PubSub**
Build a planet scale distributed PubSub system using NALSD principles. Learn about some foundational large system design principles and concepts. Topics include correctness, reliability, performance, different inter-system communication styles, and more. We introduce the problem requirements in detail and walk through an example solution.

**Distributed ImageServer**
Build a planet scale distributed ImageServer system using NALSD principles. Learn about some foundational large system design principles and concepts. Topics include sharding, replication, latency, load balancing, and more. We introduce the problem requirements in detail and walk through an example solution.

**The Art of SLOs**
The Art of SLOs introduces participants to concepts in measuring service reliability: Service Level Indicators (SLIs) and Service Level Objectives (SLOs), and gives them some hands-on experience with creating these measures in practice.
Thank you!
Questions?