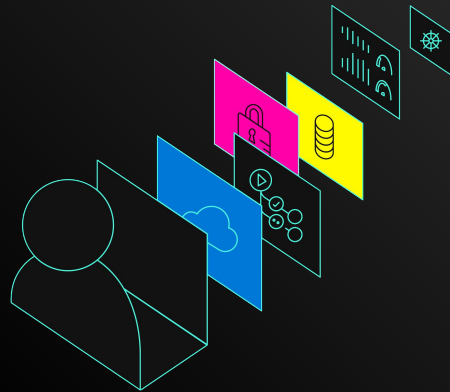


goto;

GOTO

Copenhagen 2023

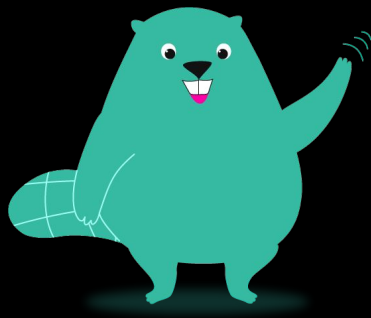
#GOTOcph



Ramp up, Fan out

The Tools Spotify Uses to Onboard Engineers and Encourage Career Mobility

Helen Greul
Backstage Engineering Lead @Spotify



Bowie the Beaver

Developer at Spotify



Helen Greul

**Eng Lead - Backstage
@Spotify**

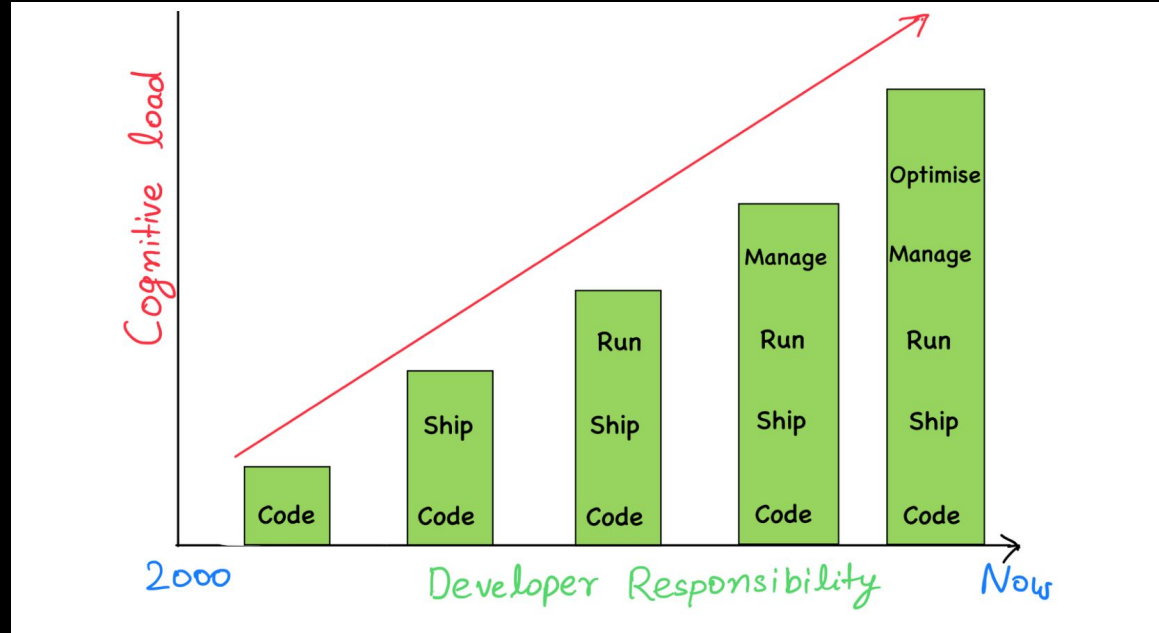
A few disclaimers..

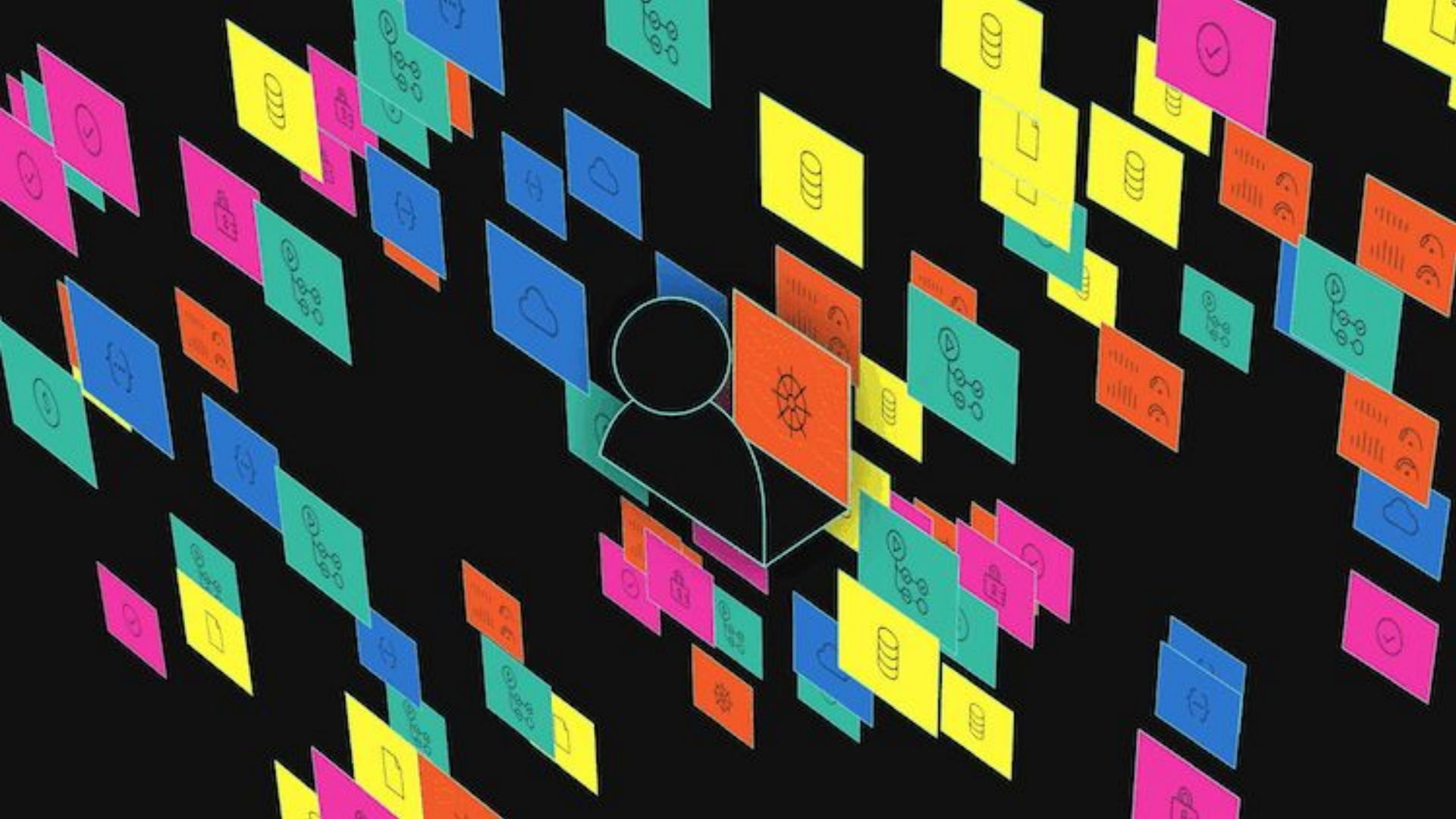


... but with new requirements

- 5

You build it you run it

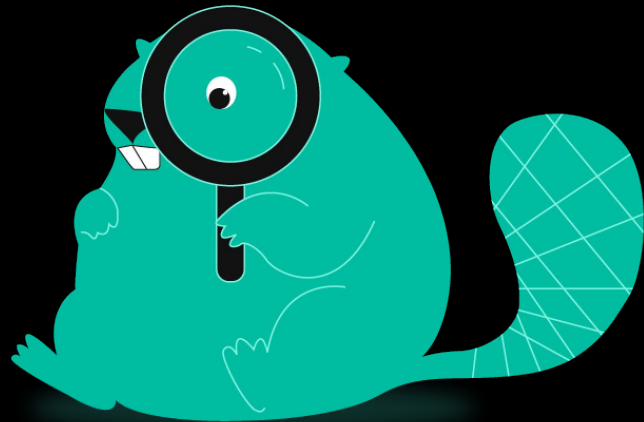




Challenges affecting DevEx:



Onboarding



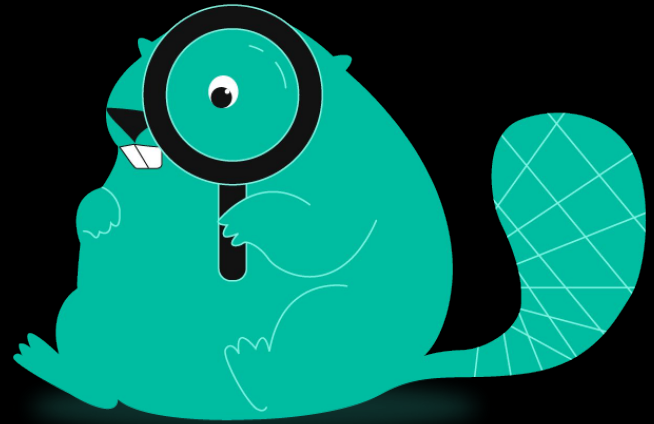
Challenges affecting DevEx:



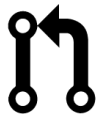
Onboarding



Growth and connectivity



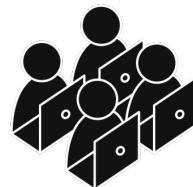
State of Engineering onboarding



**8 months
to max
productivity**



**23%
Leave < 1
year**



**22%
receive no
formal
onboarding**

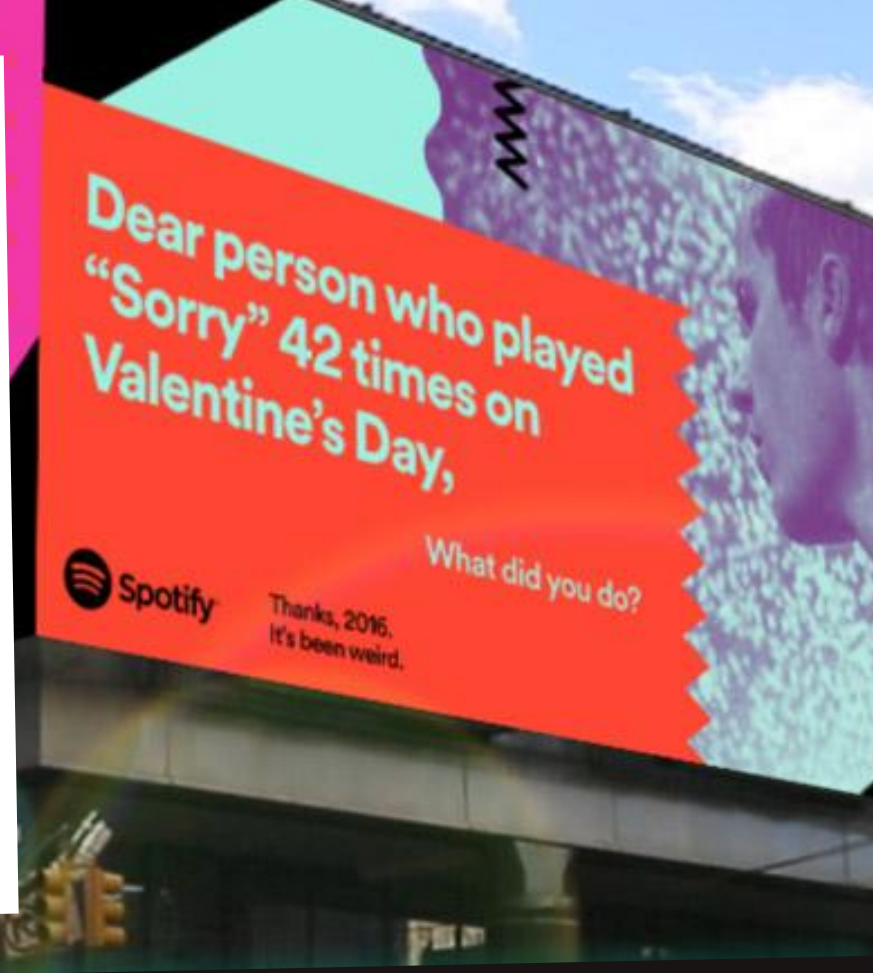
Source allied workforce mobility survey:
onboarding & retention, **hbr.org**

Let's take a trip in the way back machine...

Spotify was in **hyper-growth mode**, hiring engineers at a breakneck pace

But our developer productivity metrics weren't getting better despite all the new hires

- **time-to-10th-PR** > 60 days
- **buddy system** had problems
- **self reported productivity** score decrease





 Search Backstage

Quick access

RECENTLY VISITED



Service backstage-gateway



Documentation web



Documentation imaginary-goats



Documentation web-infra-adrs



Project tastebudz-spotify



FREQUENTLY VISITED



Toolbox

[LEAVE FEEDBACK](#)

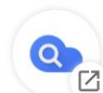
GENERAL



Spotify Start



Code Search



Cloud Search



Stack Overflow



Skill Exchange



PagerDuty



Tech Insights



Groups







An open platform for building developer portals

Created at



Donated to



CLOUD NATIVE
COMPUTING FOUNDATION

Here is what we did



**Engineering
Bootcamp**



**Golden
Path
tutorials**



**Software
templates**

From 0 to Shipping it!



13,017 of 13,053



Welcome to your Virtual Spotify Onboarding

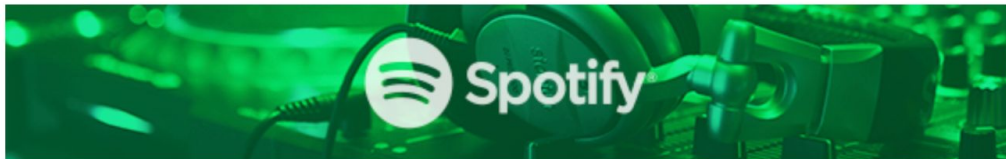
External

Inbox x

**noreply-workday spotifymail** <spotify@myworkday.com>

to me ▾

Tue, Aug 10, 2021, 8:05 AM



Hi there,

In the coming weeks, you will attend Intro to the R&D Community Day and possibly Engineering Bootcamp and Data Science Bootcamp (depending on your role).

In order for you to properly prepare, please make sure to complete the following:

ALL:

- [Pre-work for R&D Community Onboarding](#) (Please note that you will need to click the link once, close the window, and click the link again in order to be redirected to the correct page).

ENGINEERS ONLY:

- [Golden Path Tutorial](#) - Please discuss with your manager which tutorial you should complete in preparation for Engineering Bootcamp.
- Should you encounter any issues with the Golden Path prep work or have any questions, please have a look at this [document](#) to know who to reach out to.

[Spotify Trello Account Set Up](#): Please follow the instructions in the link to set up your Spotify Trello account.

Overview

Golden Paths

Big Pictures

Stack Overflow

Tech Radar



Golden Paths

Get started at Spotify

core-infra-studio

Backend

This step-by-step Backend Golden Path tutorial shows you how to create a working backend service in our production environment.

CHOOSE

client-platform

Client

In this Golden Path you will learn how to develop our Android and iOS mobile clients. We'll take you step-by-step through the process of creating a new mobile feature, testing it, and cleaning up after yourself.

CHOOSE

di-studio

Data Engineering

In this Golden Path we'll take you step-by-step through the process of creating, testing, and deploying a new pipeline to our production environment.

CHOOSE

sigint

Audio Processing

In this Golden Path, we'll take you step-by-step through the process of building and deploying a new Klio-based Audio Processing pipeline.

ml-infra

Machine Learning

In this Golden Path, we'll take you step-by-step through the process of building and deploying a new Machine Learning pipeline.

di-studio

Data Science

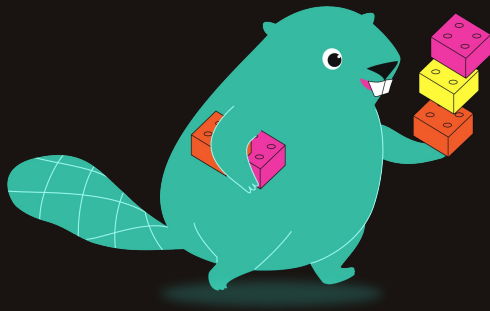
Get off to a flying start with data science at Spotify by following our step-by-step Golden Path tutorials: they'll show you how to use our powerful tools to analyze and visualize the product and usage data

CREATE DOCS COMPONENT

SUPPORT

Standards can set you free

- **standards by ease** vs ***standards by constraint***
- best practices included
- focus on **high value** activities



Jump back in

Search Backstage

You recently visited

Documentation web-golden-path 14:41

Website backstage-spotify-com about 21 hours ago

Project create about 24 hours ago

VIEW MORE

Your top visits

Documentation web-interviews 908 times

Website backstage-spotify-com 641 times

Documentation engineering-interviews 314 times

VIEW MORE



Welcome to the new Backstage Homepage!

Check it out and share your feedback with the team here [↗](#)

Search

Explore

Manage

Experiment

Data

ML

Docs

Create

More

Add Shortcuts

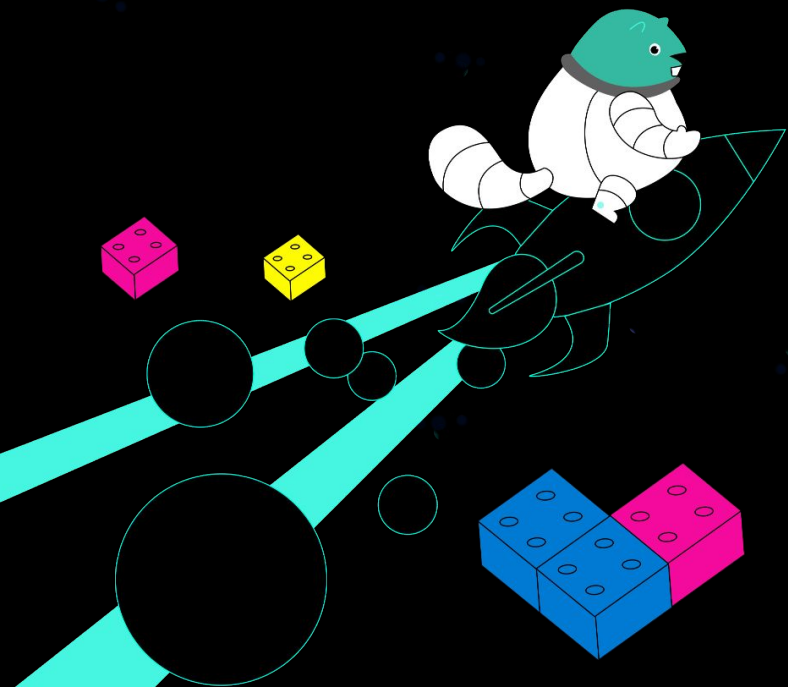
BM Band Manager

IG Imaginary Goats

SE Skill exchange

< Unpin Sidebar

Vincenzo ▾



On Day 1:

- Setup dev environment
- Create a new service from scratch
- Deploy to production
- Setup metrics, alerting and Monitoring
- Expose your service to the world by changing the **DNS** in production

Feeling onboarded?

"For me, it's when I'm independent to do stuff on my own. A feeling of autonomy"

Feeling onboarded?

"For me, it's when I'm independent to do stuff on my own. A feeling of autonomy"

"Caring about the people that are just walking in the door right now – I think that just speaks volumes to the culture."

Feeling onboarded?

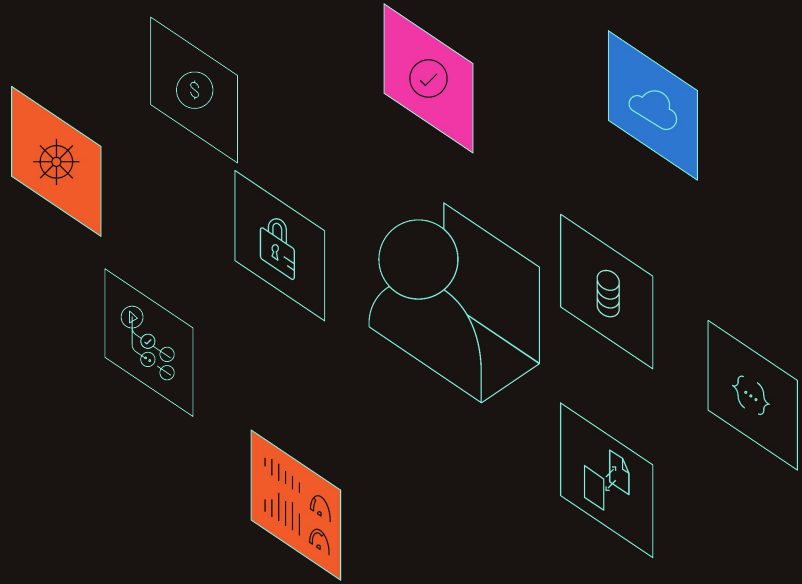
"For me, it's when I'm independent to do stuff on my own. A feeling of autonomy"

" My Spotify onboarding has been the best out of all companies I've worked for"

"Caring about the people that are just walking in the door right now – I think that just speaks volumes to the culture."



What's next?



Opportunities to gain new skills and new experiences

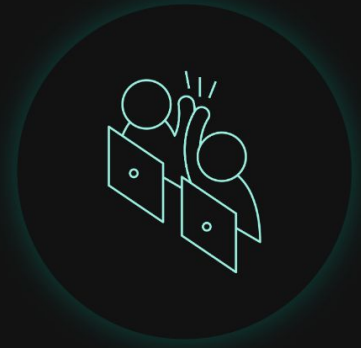
- How do I get the exposure to the new tech stacks/groups ?
- What's the best way to pick up new skills on the job?
- How do I find someone who can help?

Harnessing Hack energy to create Skill Exchange

An internal marketplace for on-the-job learning opportunities including mentors, hacks, embeds, and more

Benefits:

- ★ Share your own and seek out other's expertise
- ★ Gain new and deepen existing skills
- ★ Foster meaningful connection and collaboration



75%

**of R&D uses Skill
Exchange monthly**

Skill Exchange product suite

Mentorships +
pairing

Hacks + hack
events

Skill + profile
search

Personal
skill profile

The screenshot displays the Skill Exchange web application. At the top, a dark blue header contains the 'Skill Exchange' logo and navigation links for 'Owner protean' and 'Lifecycle Experimental'. Below the header, a navigation bar includes 'EMBED', 'MENTOR', and 'HACK' tabs, a search bar, a 'SUPPORT' link, and a 'My profile' link with a user avatar. The main content area is titled 'Embeds' and features a 'CREATE POST' button. A search bar for 'Search embeds' is present, followed by a list of skills: android, ios, data eng, backend, web, data sci, machine learning, ux/design, c/c++, and client platform eng. Three job listings are shown:

- Make Spotify a safer platform with proactive content mod!**
Do you want to make an impact on the Video Podcast Bet, #1 on the 1Prio Board? Integrate with a 3rd party vendor that helps detect...
REQUESTED SKILLS: backend, data eng
EMBED DETAILS: For 3 months starting around Q4 2021, Intermediate expertise, New york
- Make a difference as a data scientist!**
Support the Playback tribe delivering in Q4 towards one of Spotify's top priority (Podcast Part 6)
REQUESTED SKILLS: data sci
EMBED DETAILS: For 3 months starting around Q4 2021, Proficient expertise, Flexible
- Engineers needed for the Inspire Creation bet**
Looking for mobile and backend engineers to help us bring UGC creation to the Spotify app!
REQUESTED SKILLS: backend, ios, android
EMBED DETAILS: For 3 months starting around Q4 2021, All levels of expertise, Flexible



Reflect on and share your expertise with others

- Input skills to see your “shape” and what you’re learning
- Use skill scales to give yourself an objective proficiency level
- View personal GHE data
- View courses you’ve taken



Find opportunities to gain new skills and new experiences

62%

Less likely to leave the company within one year

Embeds

Search embeds

SKILLS LISTED: python machine learning

Filter: My embeds Saved By skill By skill level By team

Add Heuristic Model support to the Machine Learning Platform

Contribute heuristic model support to Spotify Kubeflow (SKF) python SDK while learning about Machine Learning. Get hands on with TensorFlow, TFX and KubeFlow.

REQUESTED SKILLS

machine learning

EMBED DETAILS

For 3 months starting around Q1 2022

All levels of expertise

Flexible

Hack

POST A HACK

Search

ALL FILTERS

Filters: My hacks Following Find a team Adopt an idea Past hacks

Recent

Managed data processing in SQL

This hack will demonstrate the possibility to implement completely managed, pure SQL data processing pipeline, making it easy for anyone to process data at scale.

In progress

Anywhere
Tooling
DIPIUP HacktoberFest 2021

J D F +1

Looking For Help With

Java Data Eng Scala Flyte Scio

LEARN MORE

Enabling Complex Event Processing (CEP) in Scio/Beam

Complex Event Processing allows pipelines to look for patterns in a stream of events. This hack aims to support a similar feature on top of Gabbita Streaming.

In progress

Anywhere
DIPIUP HacktoberFest 2021

J D F +1

Looking For Help With

Data Eng Java Scala Scio

LEARN MORE

Improved Mastermyr decryption in UBI streaming

Testing batching & local decryption in streaming UBI pipelines, to evaluate effects on latency & cost

In progress

Anywhere
DIPIUP HacktoberFest 2021

J D F +1

Looking For Help With

Scala Data Eng Scio

LEARN MORE

n-gram extractor for musical description discovery

Given a bag of tracks, show most frequent word n-grams from titles and descriptions of all playlists that include any of the tracks - an interesting source of /r/8n/10n descriptions of music!

Hack completed

Carbon footprint of GCP on Backstage

Engineers should know what is the carbon footprint of their services and pipelines. This data has been computed earlier this year. Now we need to spread the word to every engineer on Backstage.


Hack completed

Birdwatch - Easy twitter tracking for all squads at Spotify

What if all squads had easy access to all tweets about Spotify? Wouldn't that be amazing? https://docs.google.com/presentation/d/1LlNan3_ar-Zbus3EShapEGZURLHWDtQQLJ2gkVMHmW7w/edit?usp=sharing

Seek/offer mentorship

- Serve as an expert
- Mentor others
- Add areas of expertise to your profile



Offering to mentor
Olivia Bicks · Data Scientist, Messaging · colander

[SHARE](#) [CLOSE](#)

Data Science Mentor

I'm happy to mentor Associate Data Scientists or Junior DS!


Can offer help with


data sci


Description

I've been at Spotify since November 2020, and I'm happy to offer guidance on experimentation, ML modeling, working with stakeholders, and presenting insights!

EMBED DETAILS


 [Olivia Bicks](#)

 Updated Feb 04 2022, 02

 New york

[CONTACT](#)

[ADD TO SAVED POSTS](#)



Looking for a mentor
Dunya Oguz · Analytics Engineer · megaphone-pi


4 months ago

Looking for an experienced data or backend engineer mentor

I am interested in learning more about these disciplines to see if it would be a fit for me.

Seeking help with

backend data eng scio java scala



Ruth Garcia Gavilanes
DATA SCIENTIST

[@RUTHG ON SLACK](#)

[EDISON](#) [POP-TRIBE](#) [PI-POP](#) [KINDER](#) [RSCHWARTZ](#) [HOME MIX](#) [2.7 YEARS](#)

I can help with

DISCIPLINE [Data Sci](#)

FRAMEWORKS [Tensorflow](#) [Tensorflow Extended \(TFX\)](#)

INFRASTRUCTURE [BigQuery](#)

LANGUAGES [Python](#)


Team up with Ruth

Ruth doesn't have any open opportunities right now.

[VISIT EMBEDS](#)

Growth activities

All Embeds One on Ones Tech University

 **DS307: Intro to Causal Inference**
Tech Learning

MAR 3 2

All Learners

Attrition



15%

less likely to leave the company after one year

Career Growth



21%

more likely to earn a promotion within one year

Productivity



19%

more likely to report high productivity

Flow



17%

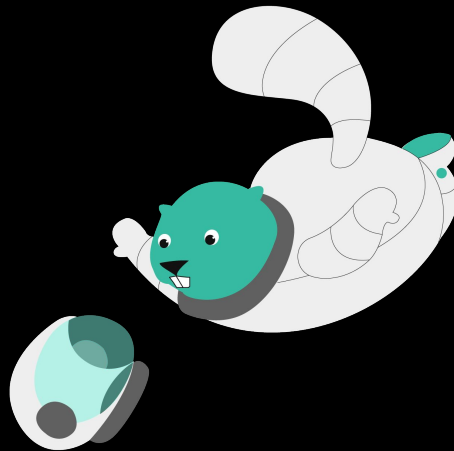
more likely to report a high frequency of achieving flow

Velocity



9%

more likely to report satisfaction with their velocity



The Spotify Plugins for Backstage bundle



RBAC

Control access to actions and data in Backstage



Soundcheck

Ensure quality, reliability, and alignment of software development with codified checks and guidance



Skill Exchange

Build an internal marketplace for learning and growth opportunities within R&D



Pulse

Collect data that drives continuous improvements to your R&D tooling, processes, and culture



Insights

Identify, understand, and benchmark Backstage usage trends



Join the **Backstage** community

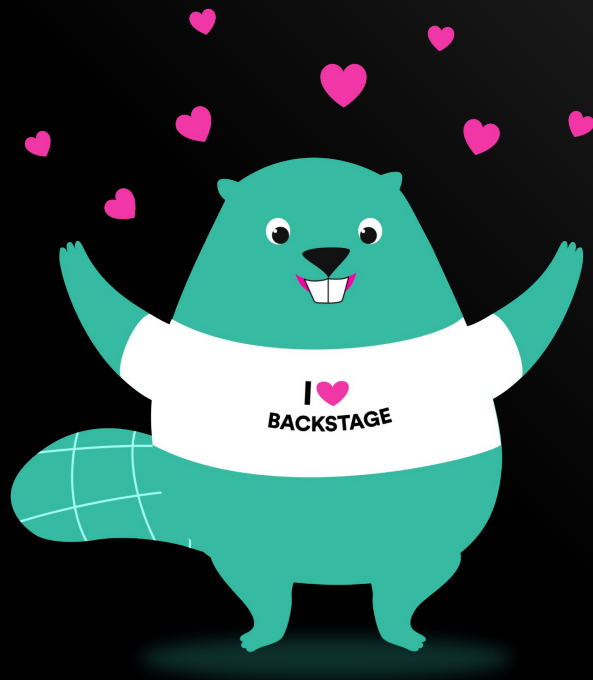


<https://backstage.io>

<https://backstage.spotify.com>

Happy Developers write Happy Code!

- Focusing on developer onboarding and career mobility is a worthwhile investment
- Focus on the measurable goals
- Talk to your engineers early and often



Questions?



goto;

Don't forget to
rate this session
in the **GOTO Guide app**