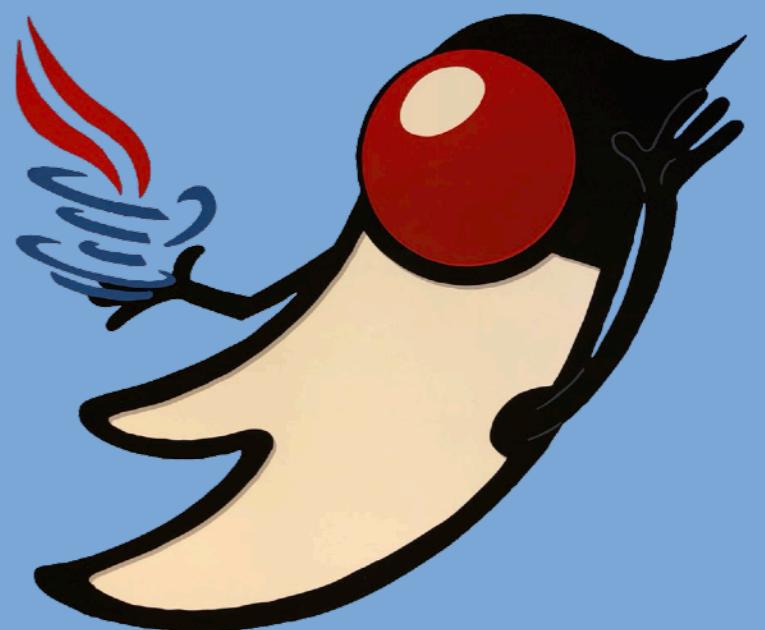
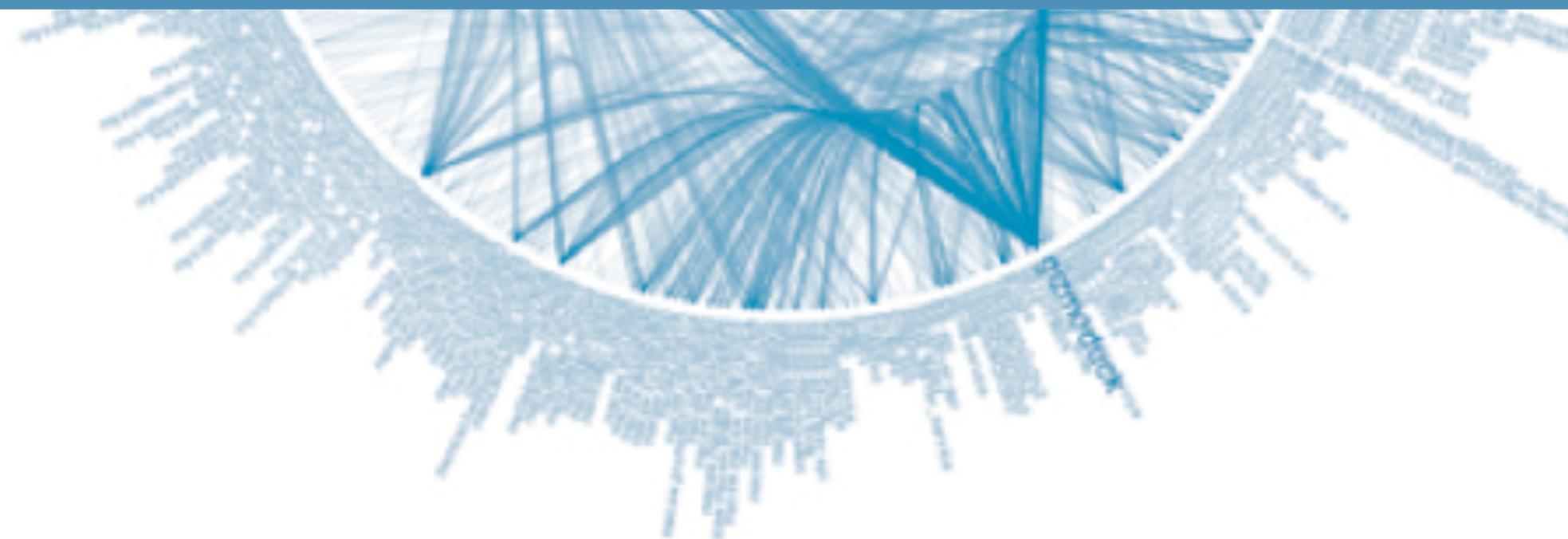
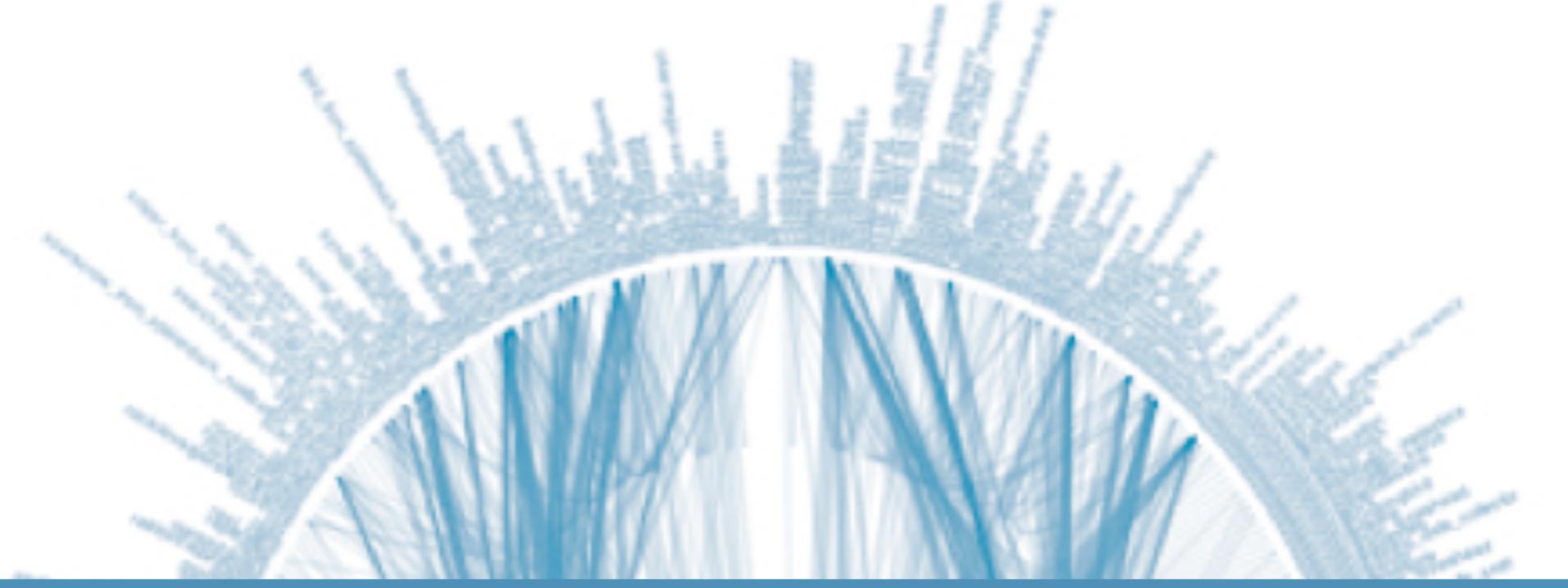
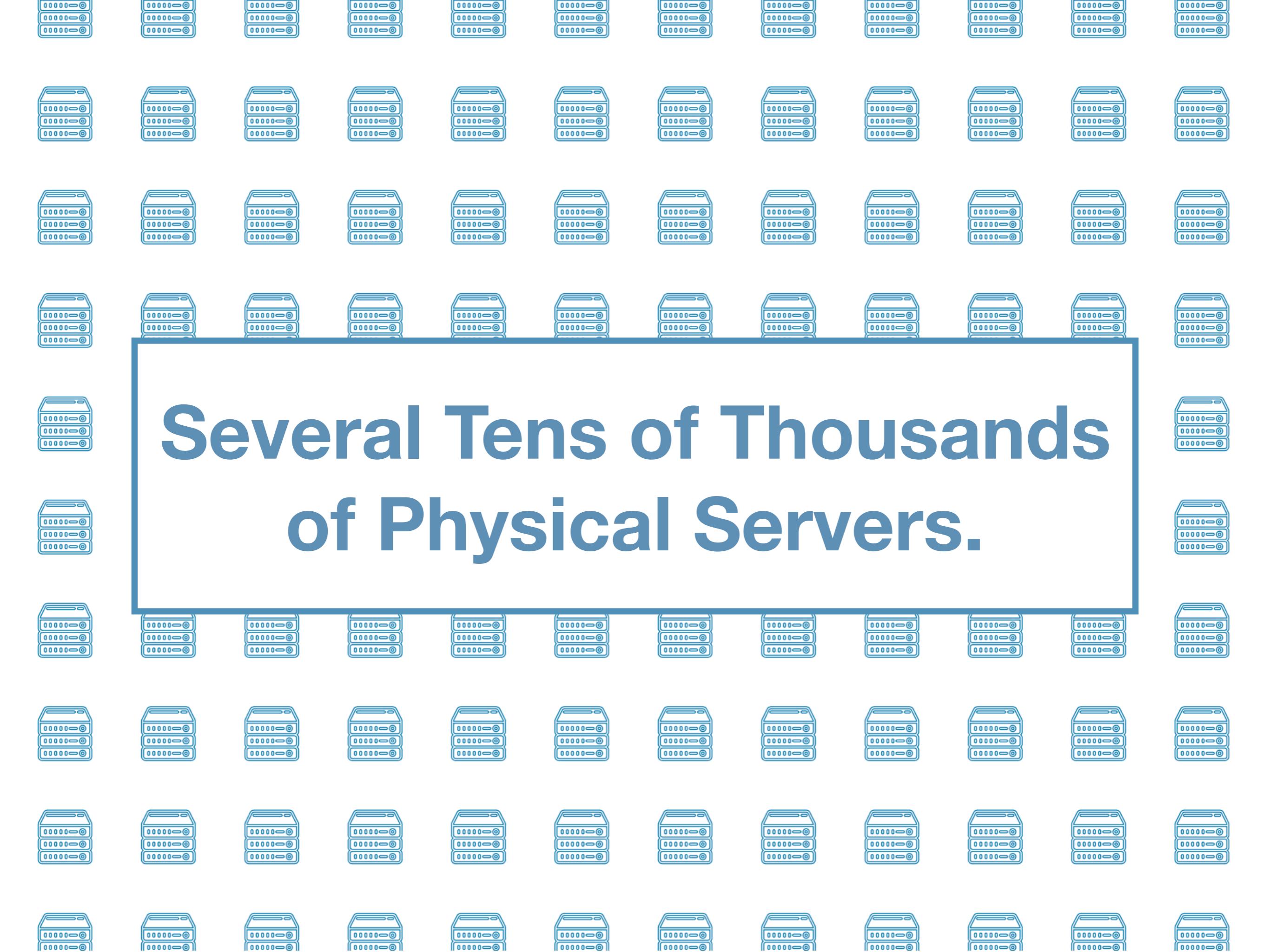


# Automated performance tuning using machine learning.





**Many Hundreds of  
Services.**



Several Tens of Thousands  
of Physical Servers.

# Several Tens of Thousands of Physical Servers.

(Several million CPU cores)

**Several Hundreds of  
Thousands of Twitter JVMs.**





*f*(  
Service  
Finagle  
Twitter JVM  
**Mesos Container**  
Kernel & OS  
Hardware)

x 10  
x 10  
x 100  
x 10  
x 10  
x 10



x 10  
x 10  
**x 100**  
x 10  
x 10  
x 10

*f(*

Service  
Finagle  
**Twitter JVM**  
Mesos Container  
Kernel & OS  
**Hardware**

)

x 10  
x 10  
**x 40**  
x 10  
x 10  
**x 10**



Andrew Ng

@AndrewYNg

If you're trying to understand AI's near-term impact, don't think "sentience." Instead think "automation on steroids."

11:04 AM - 1 May 2017 from Stanford, CA

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1,397 Retweets 2,085 Likes

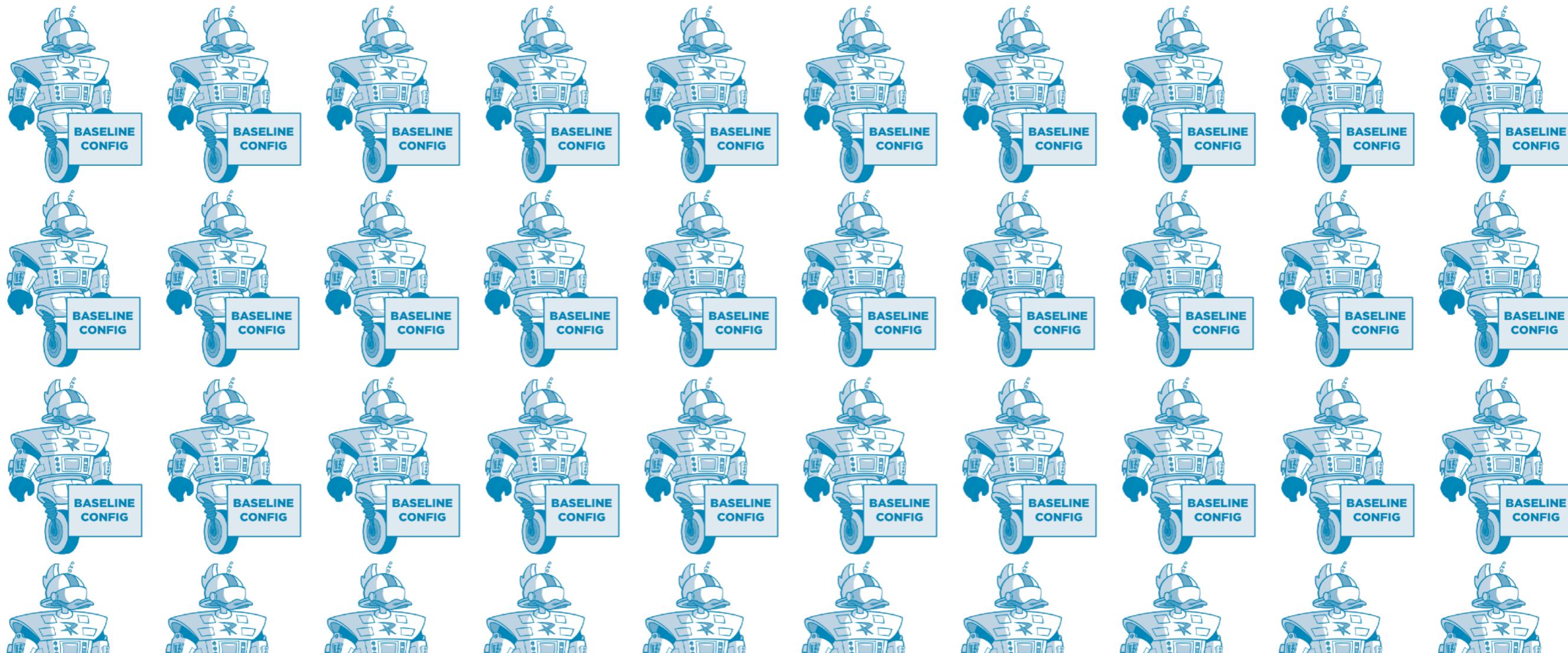


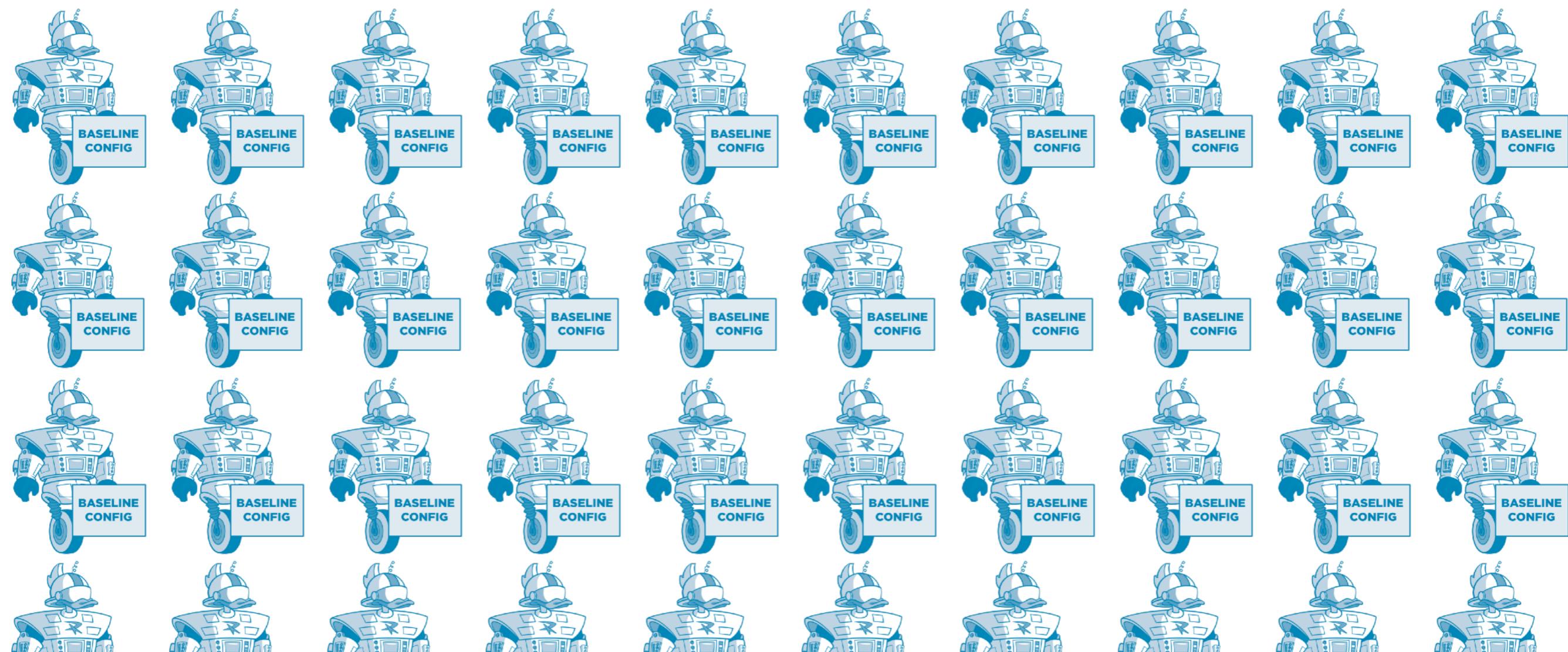
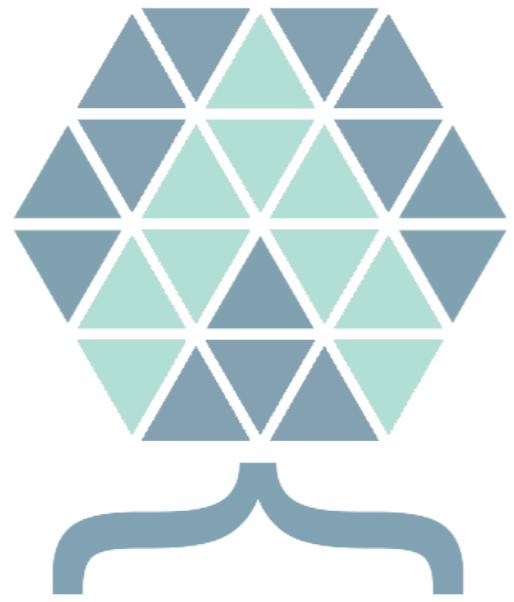
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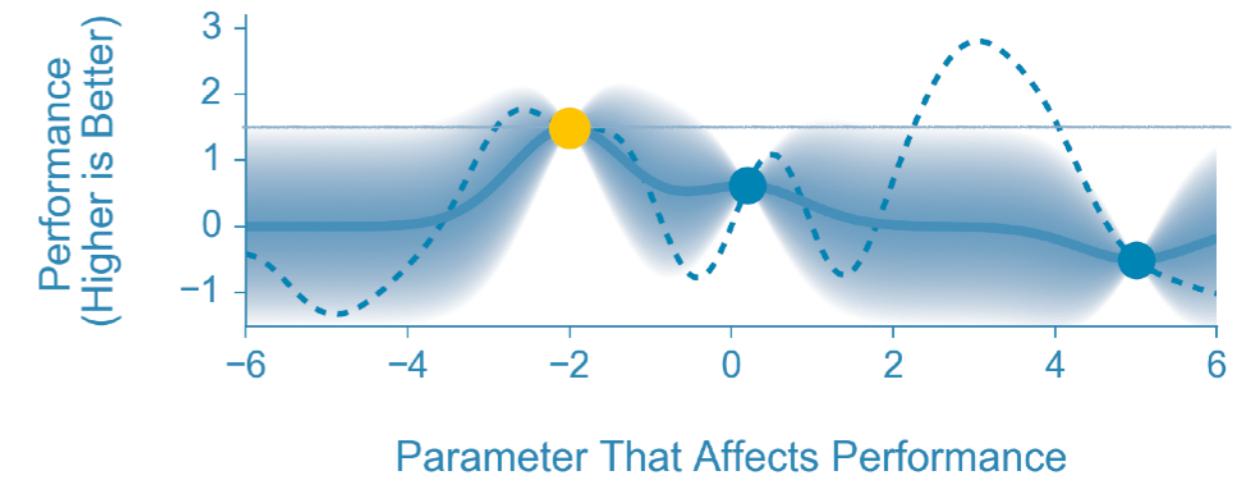
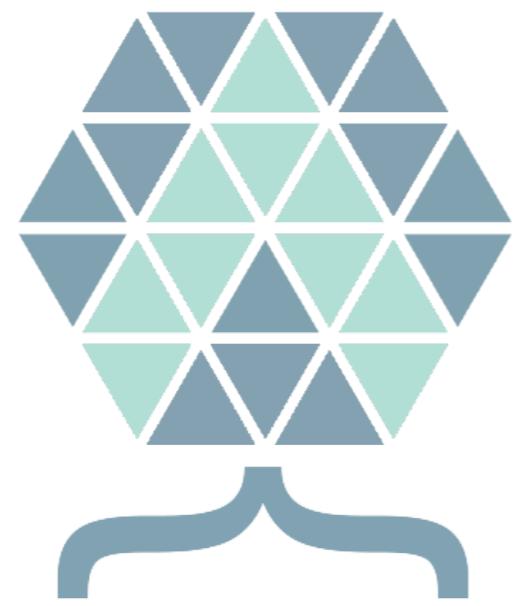
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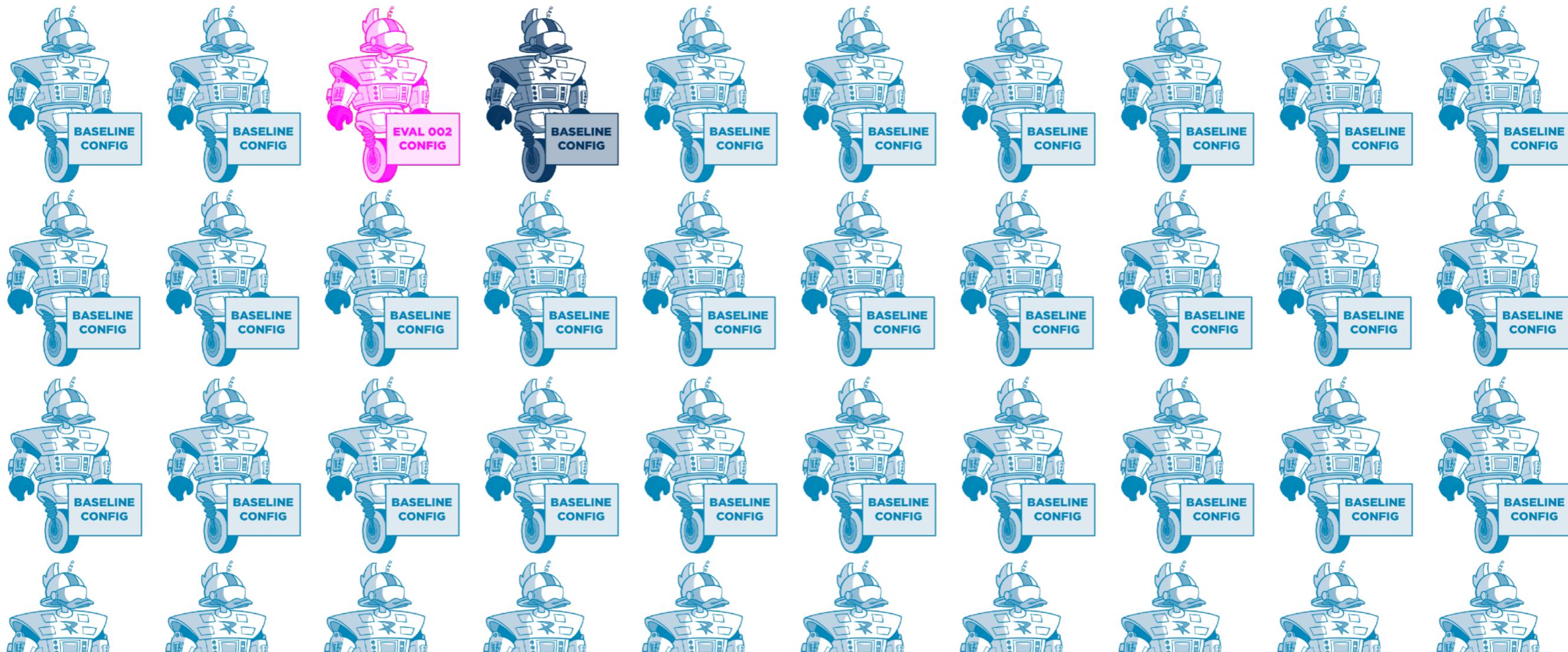
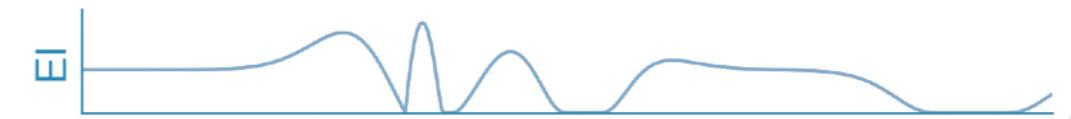
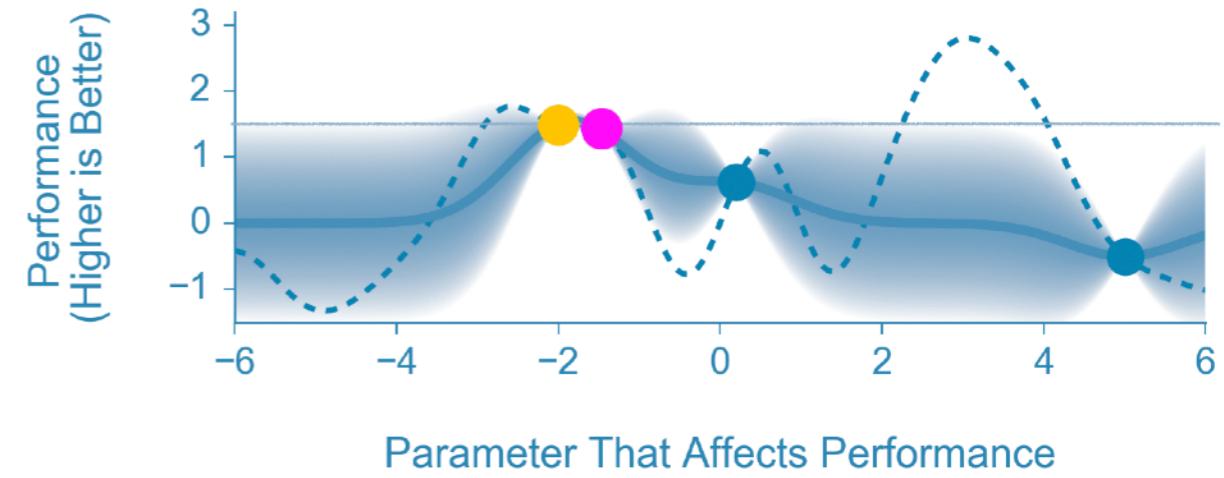
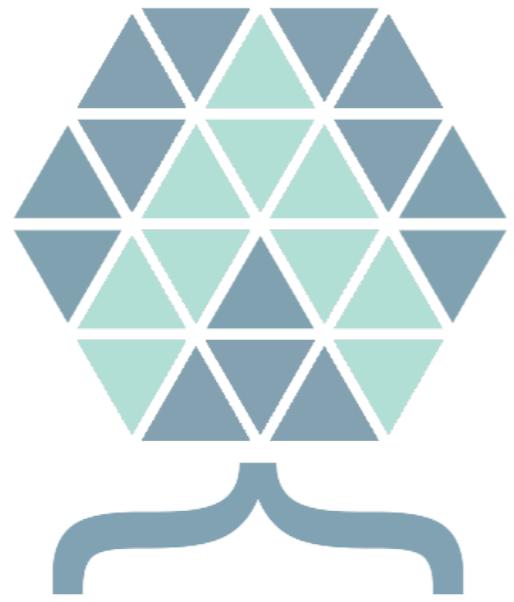
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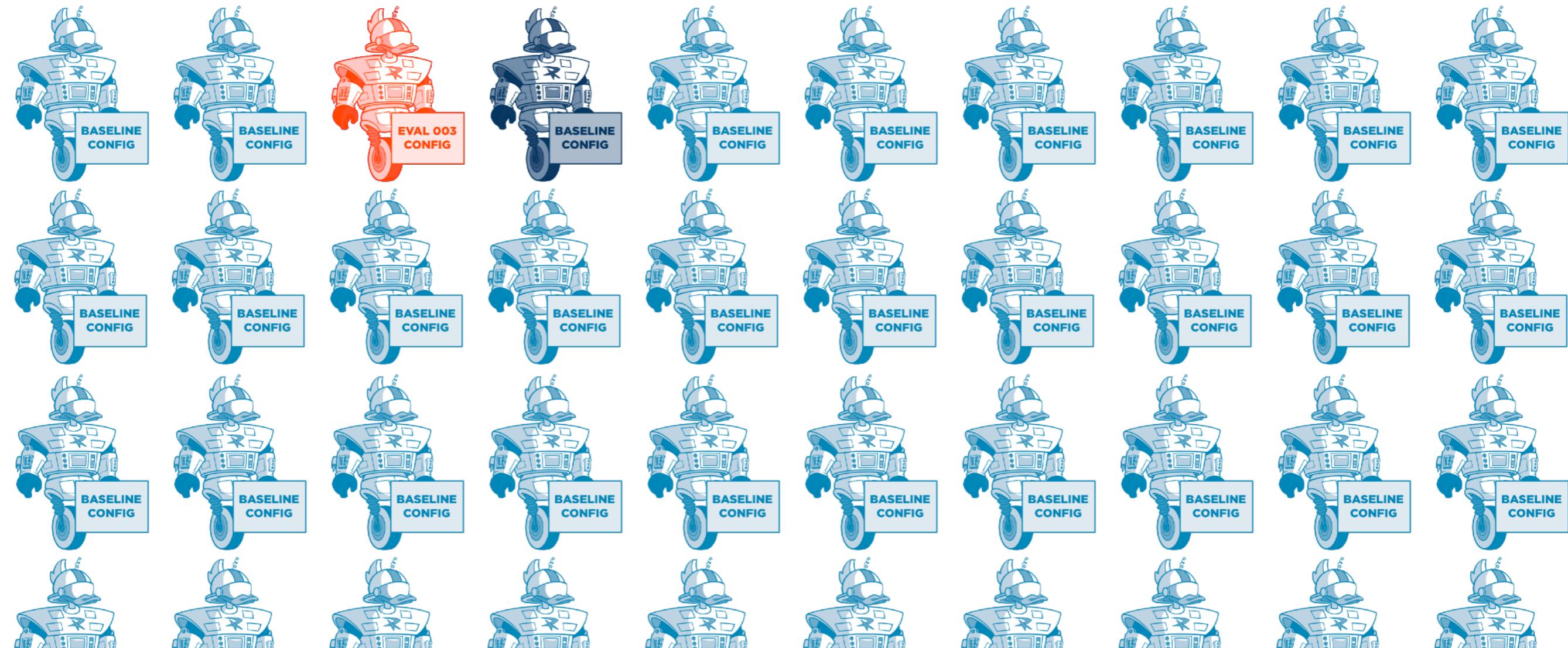
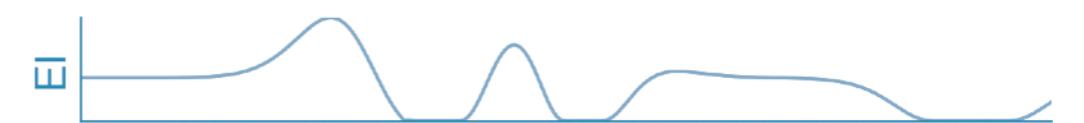
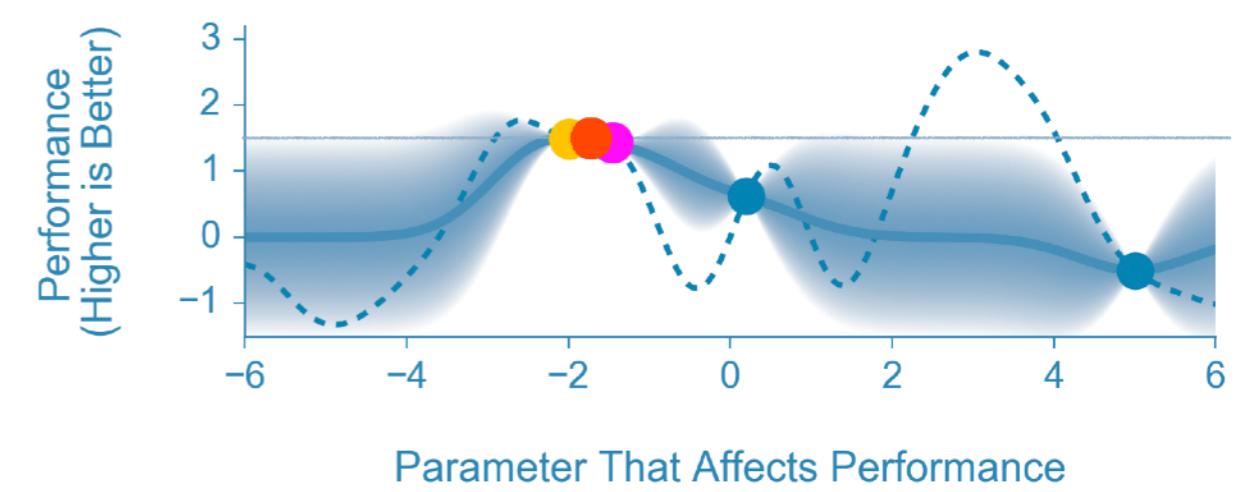
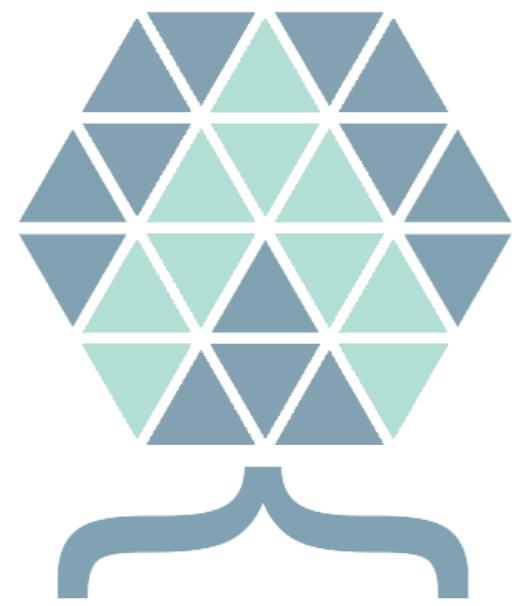
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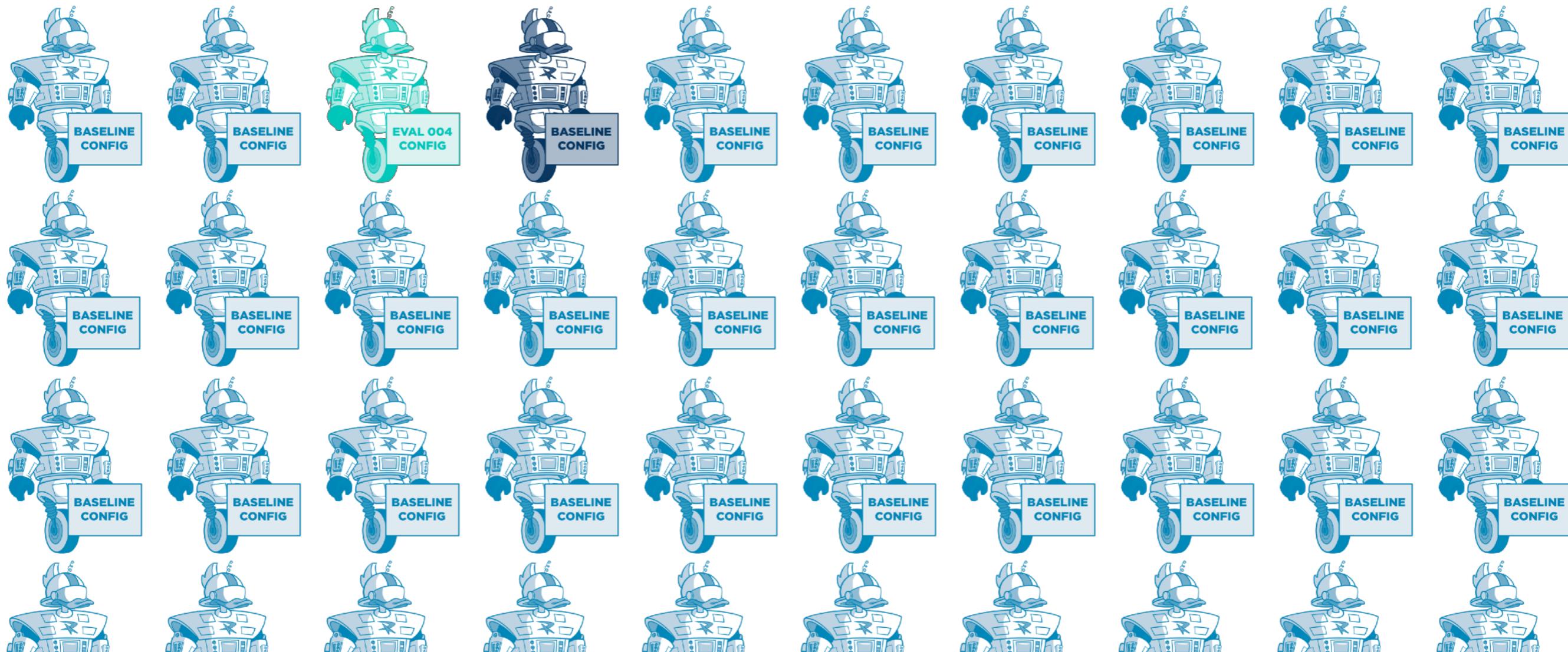
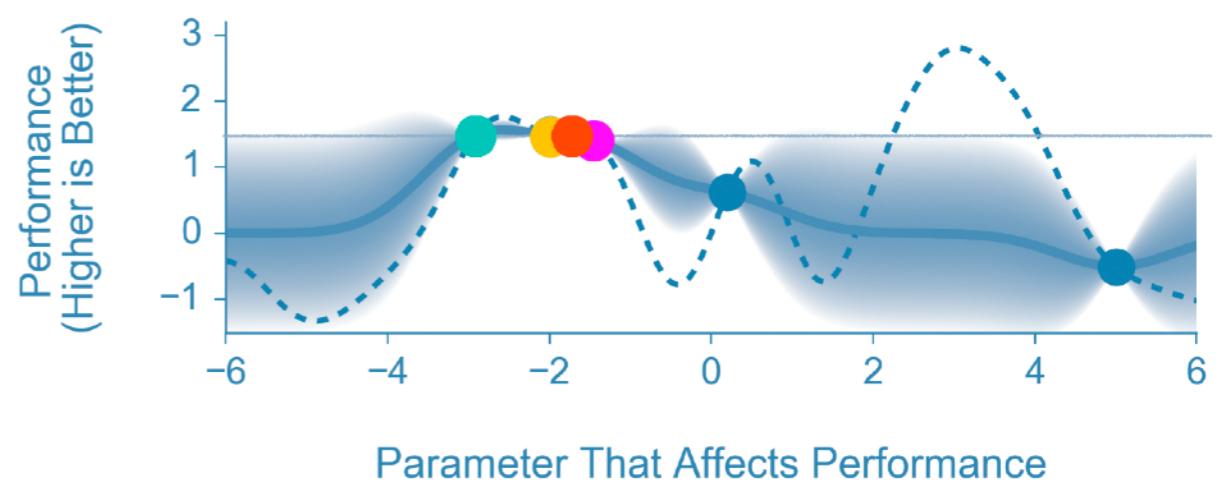
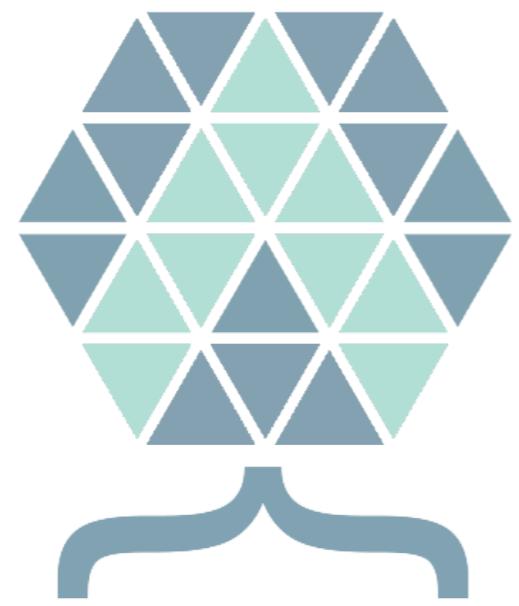


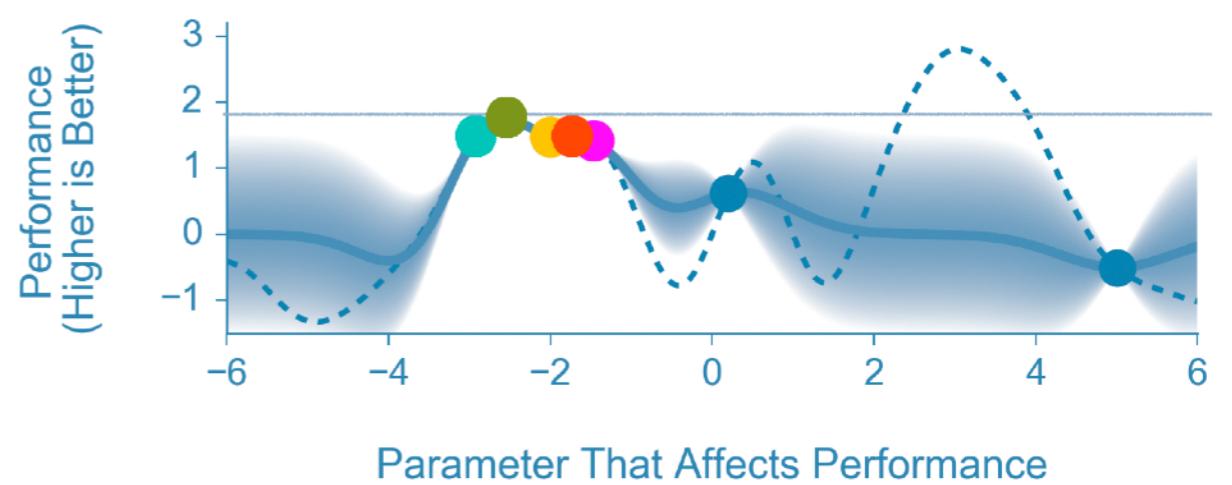
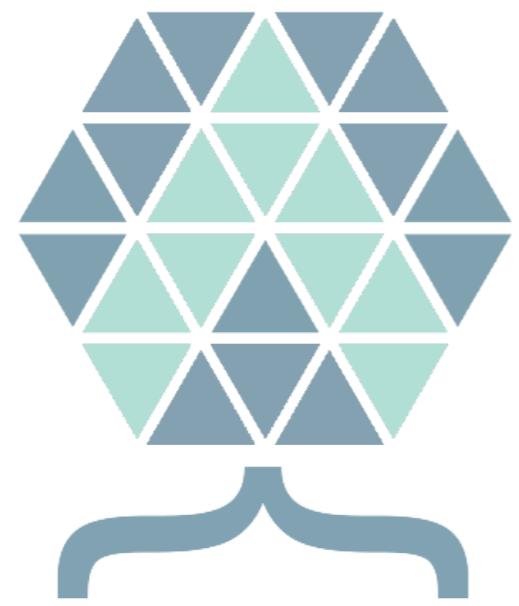


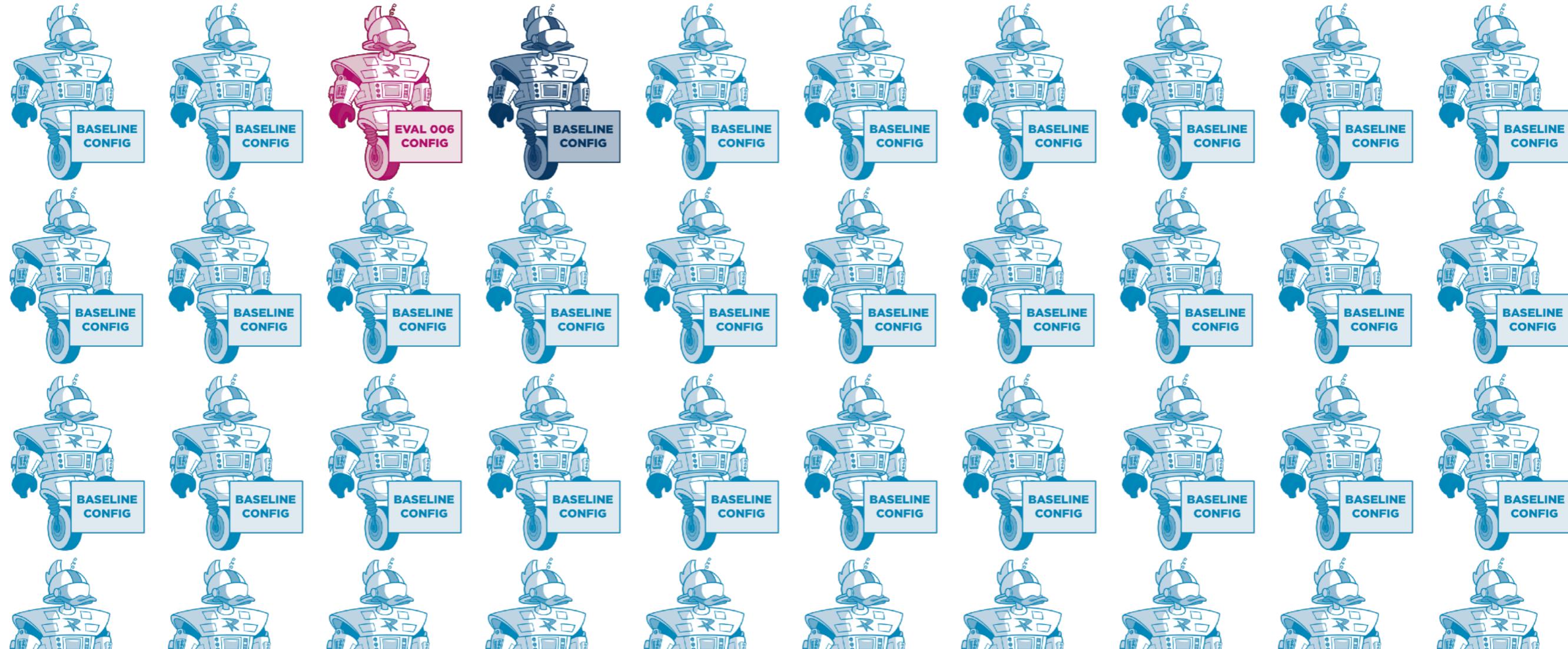
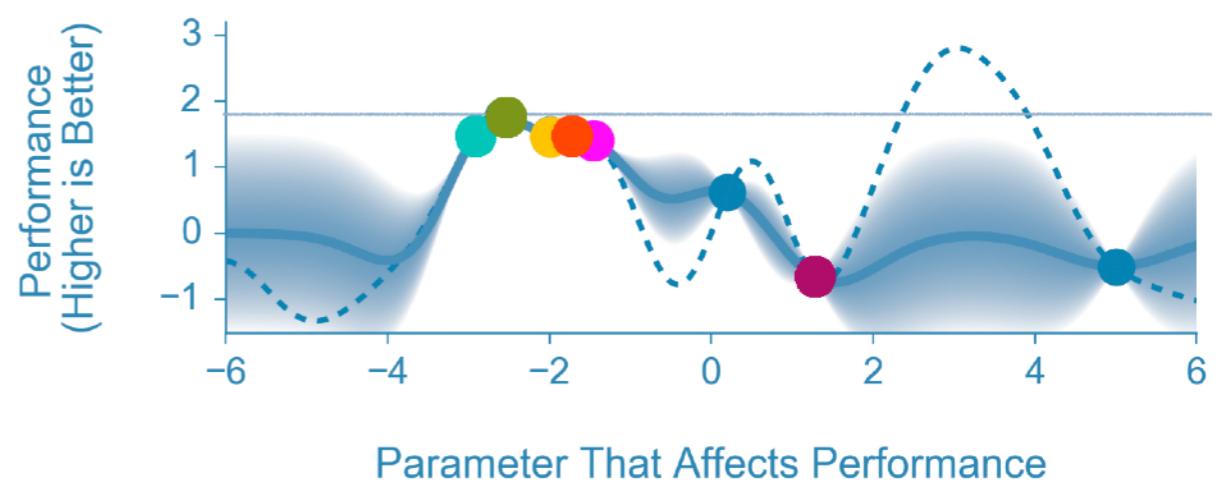
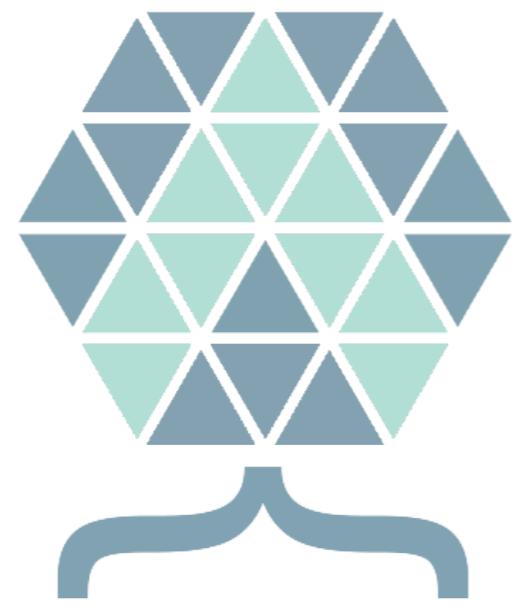


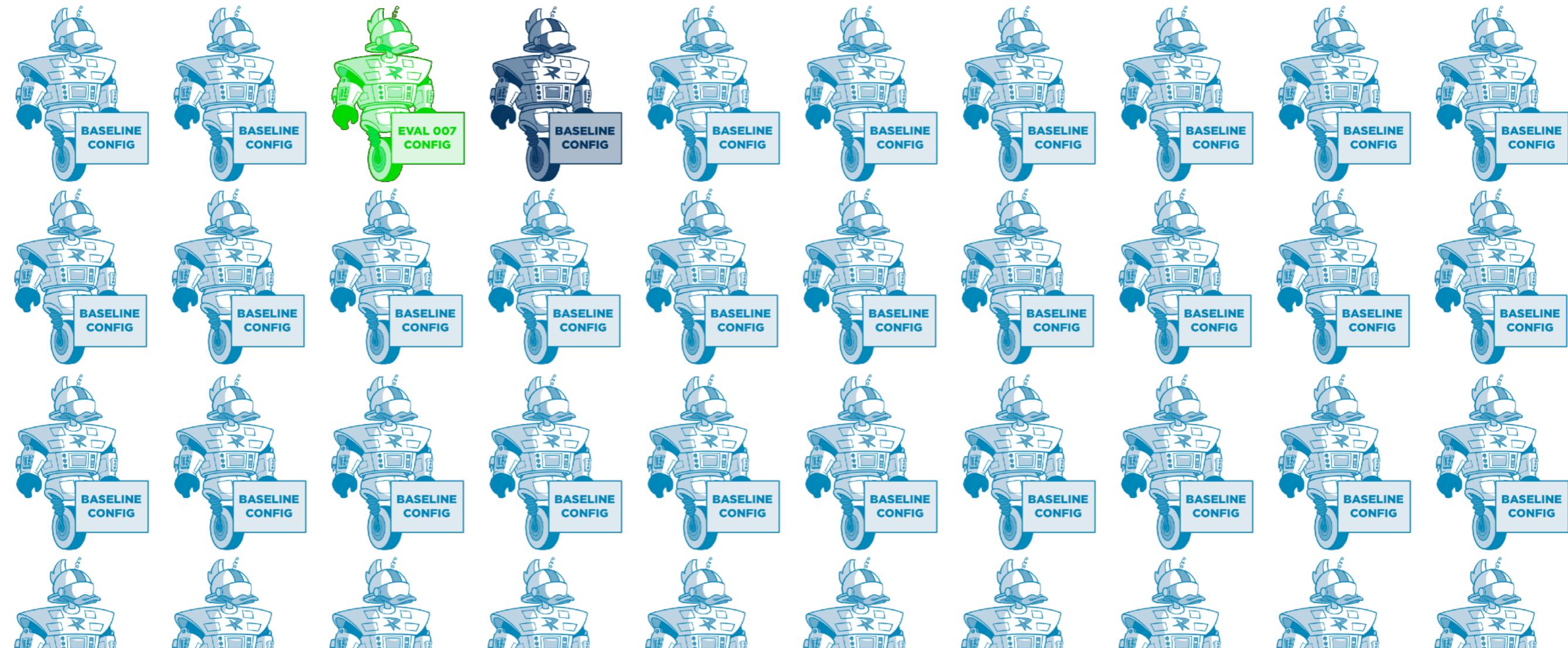
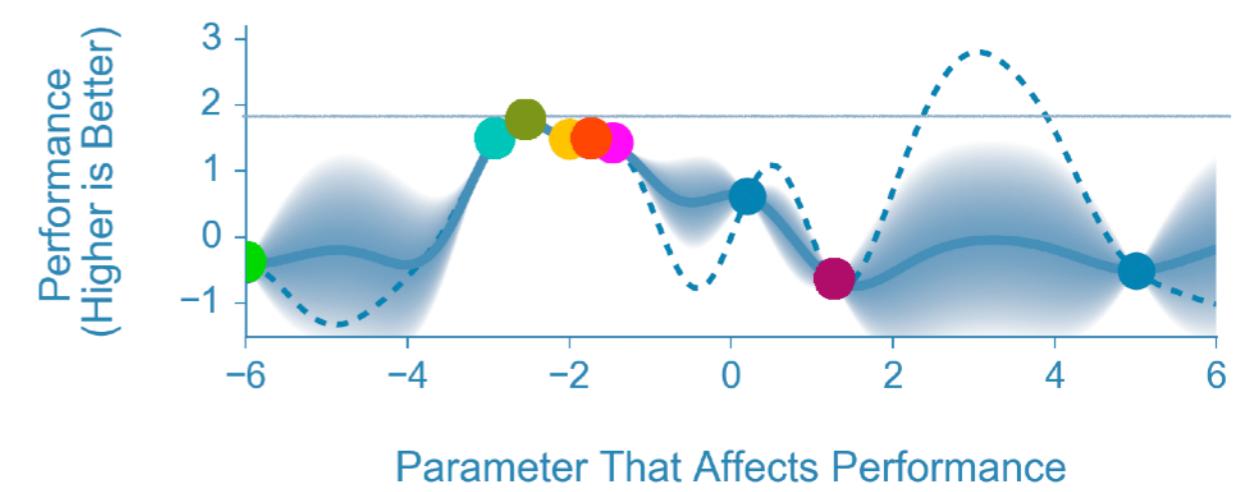
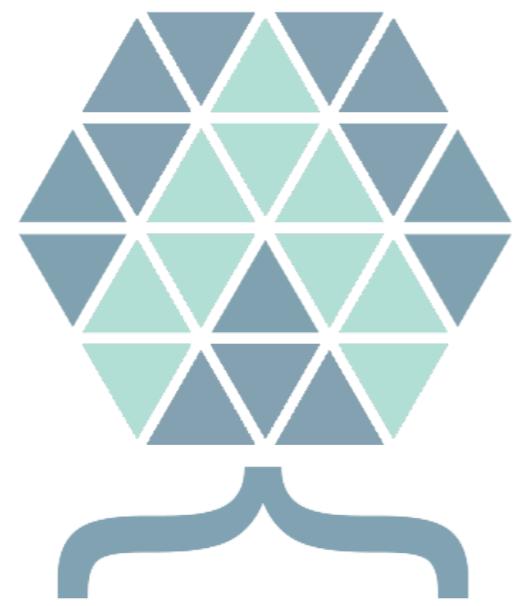


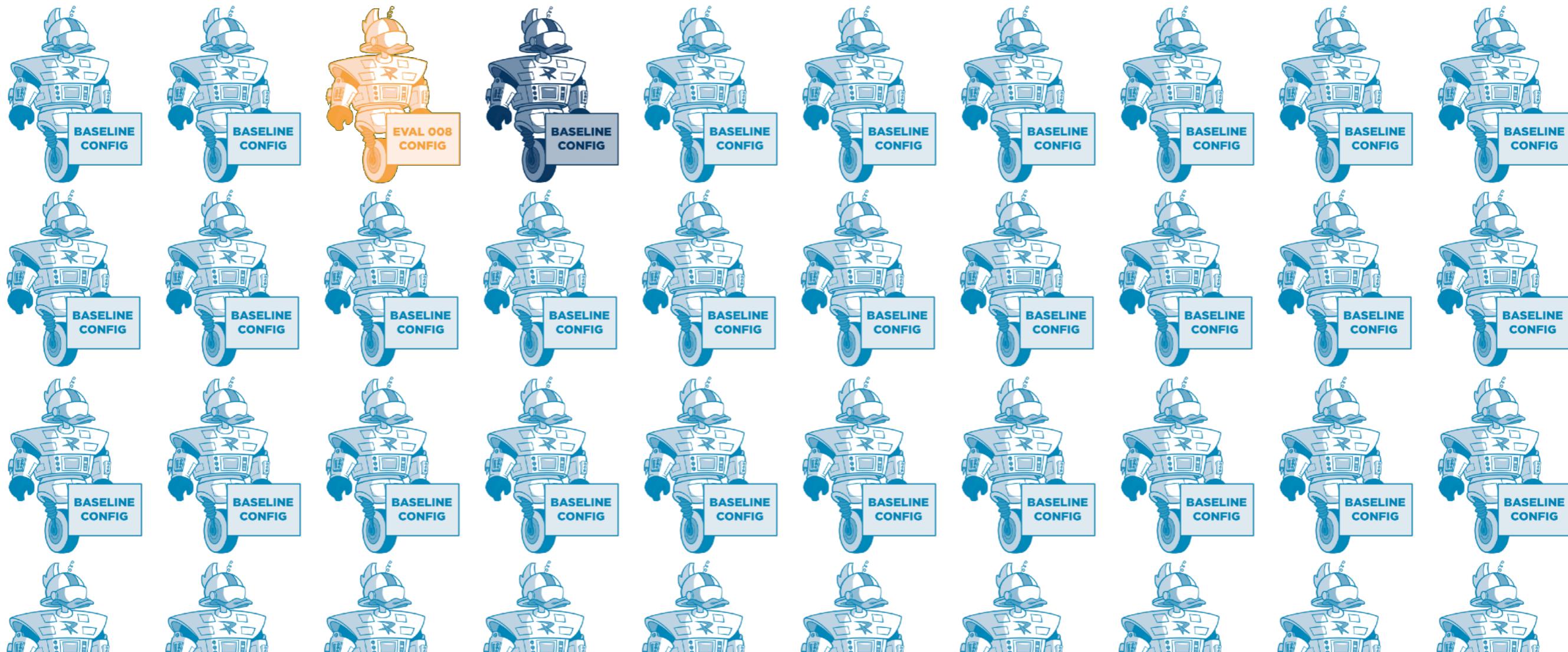
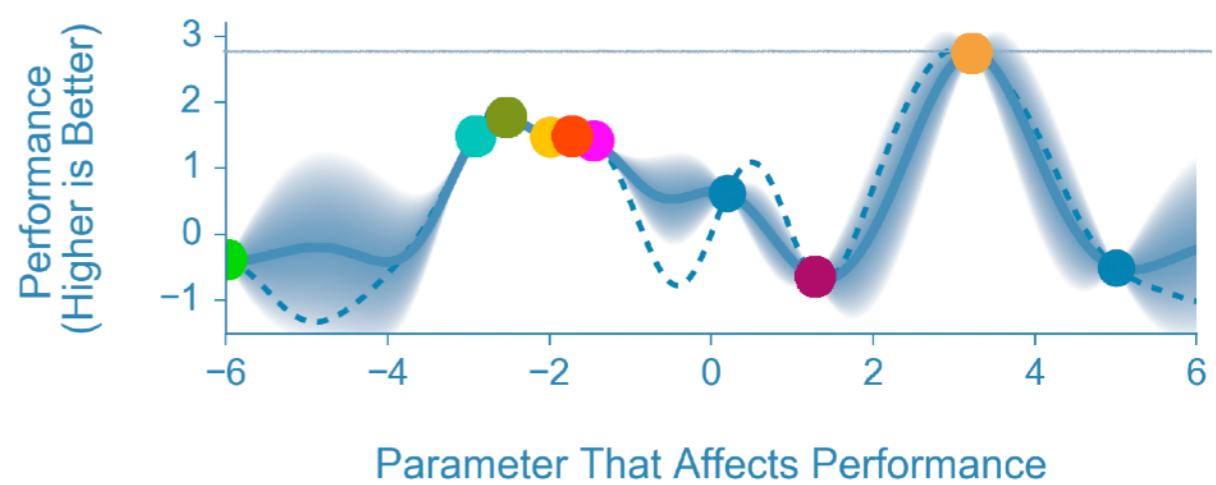
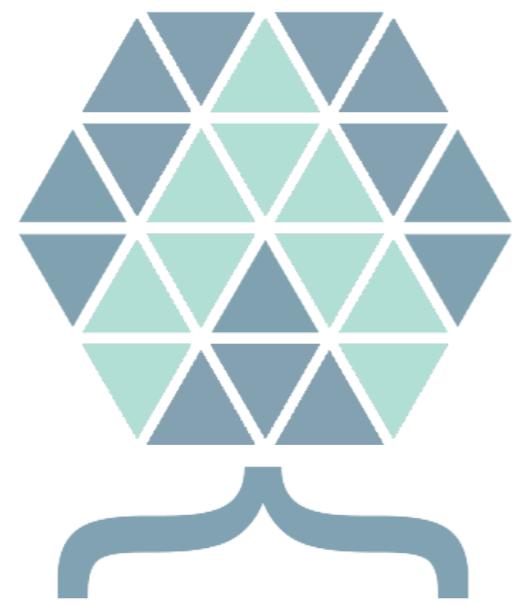


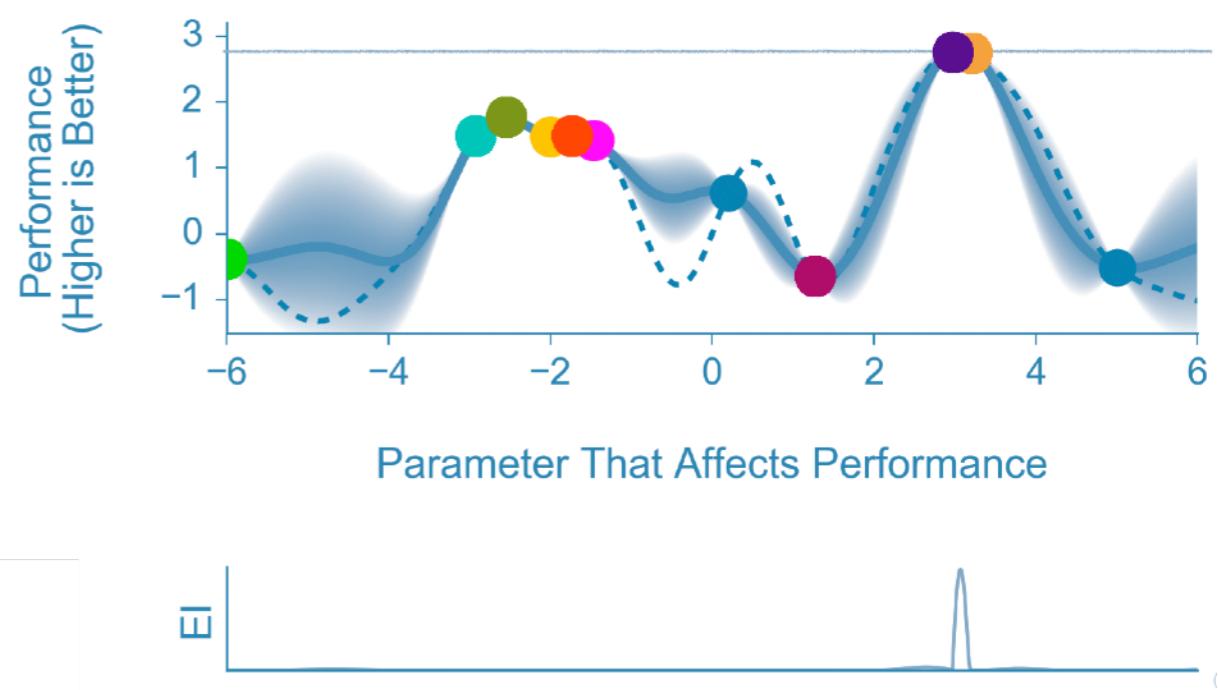
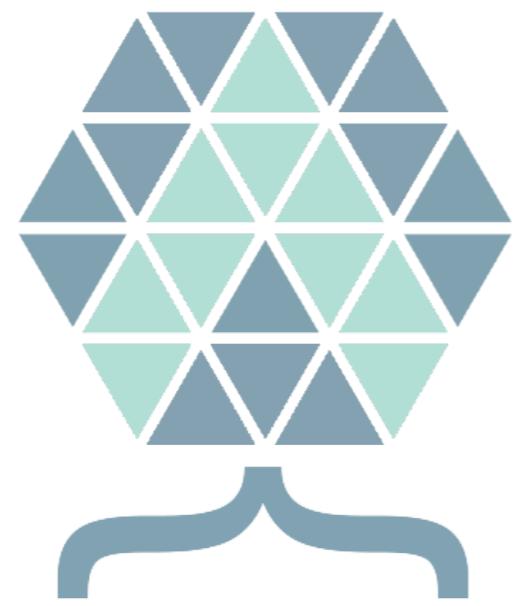


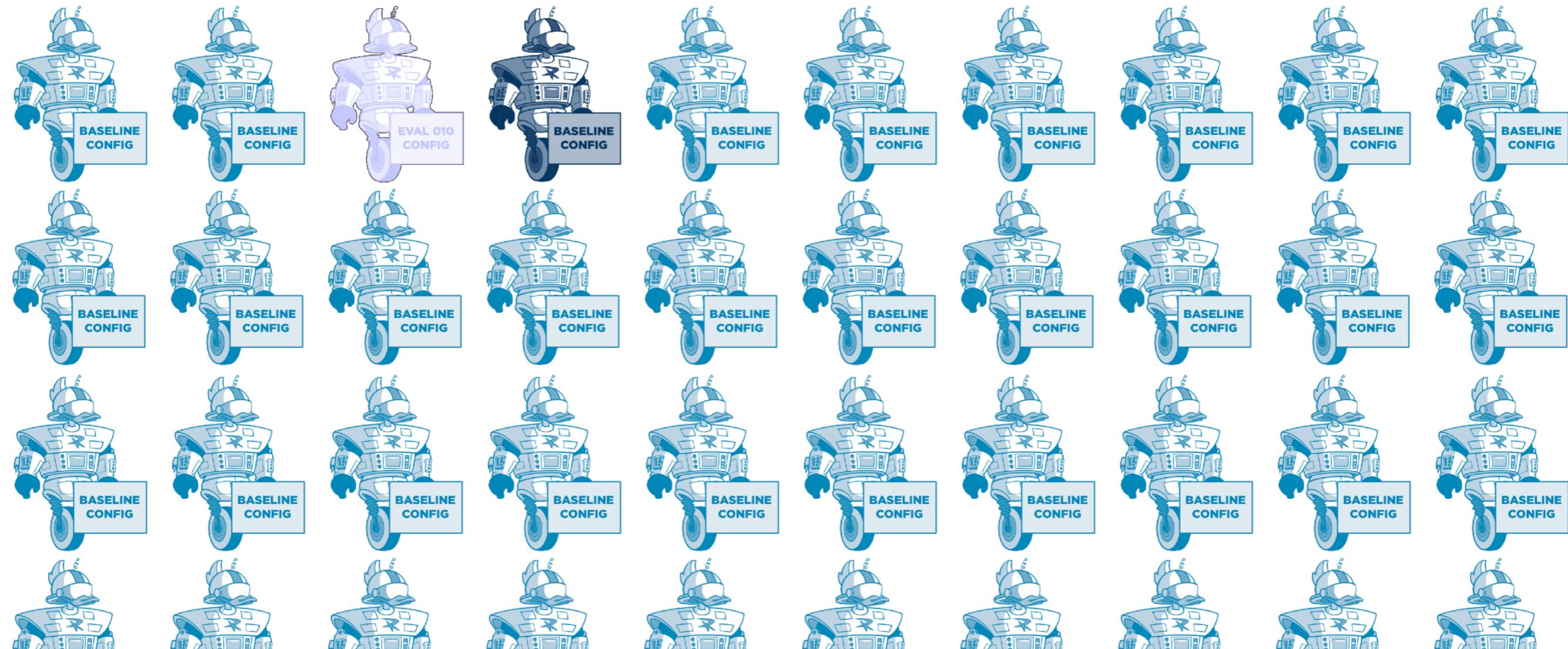
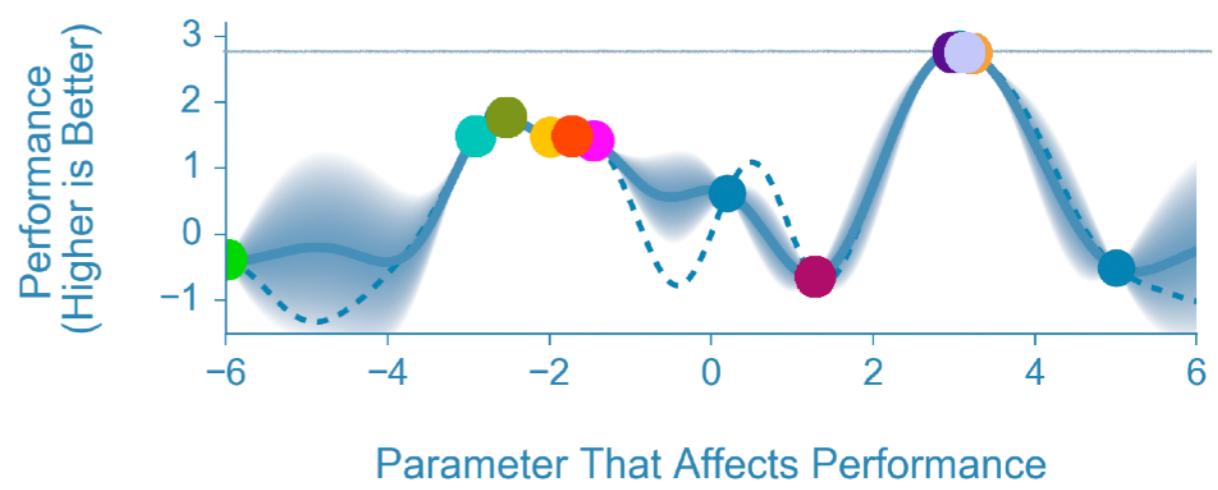
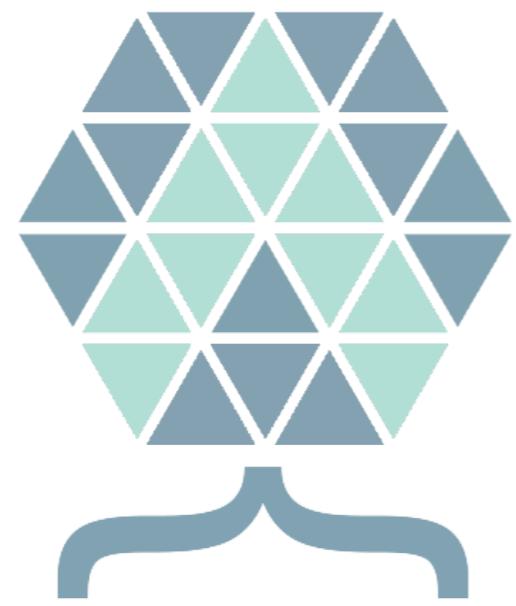


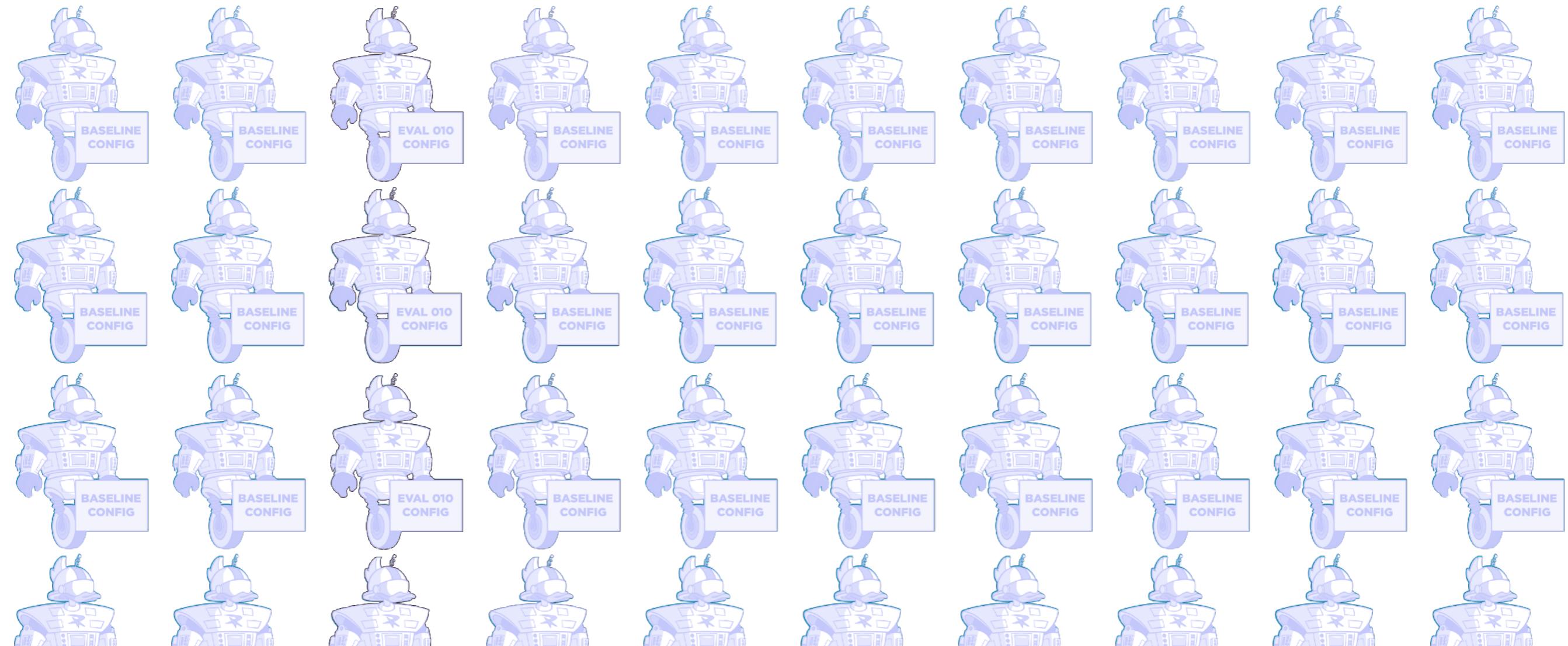
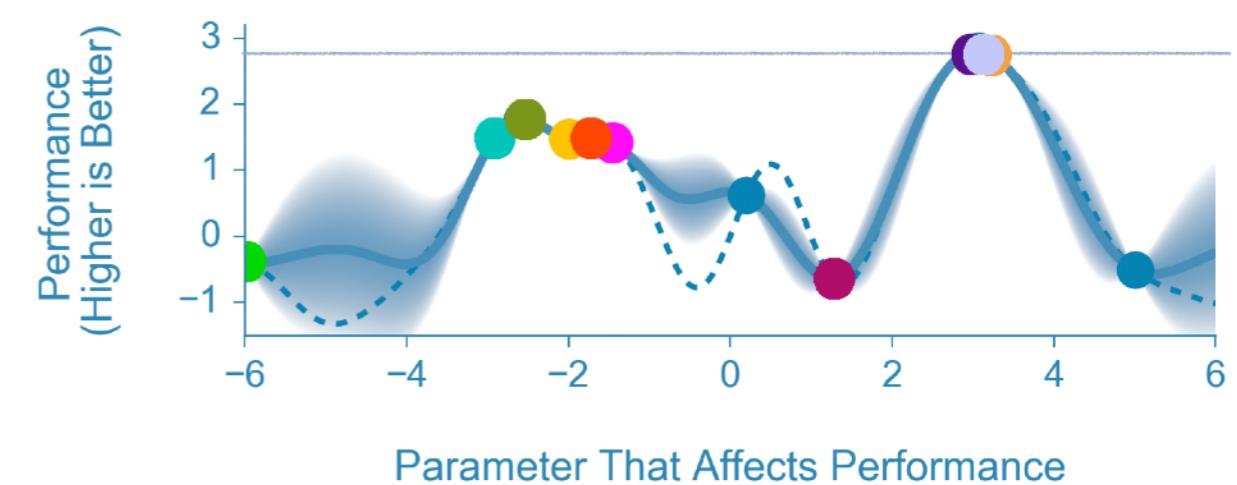




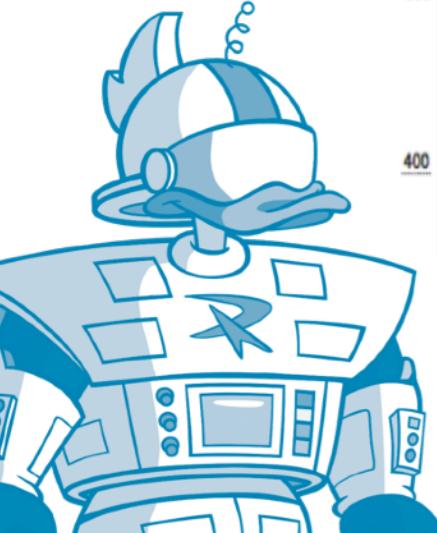
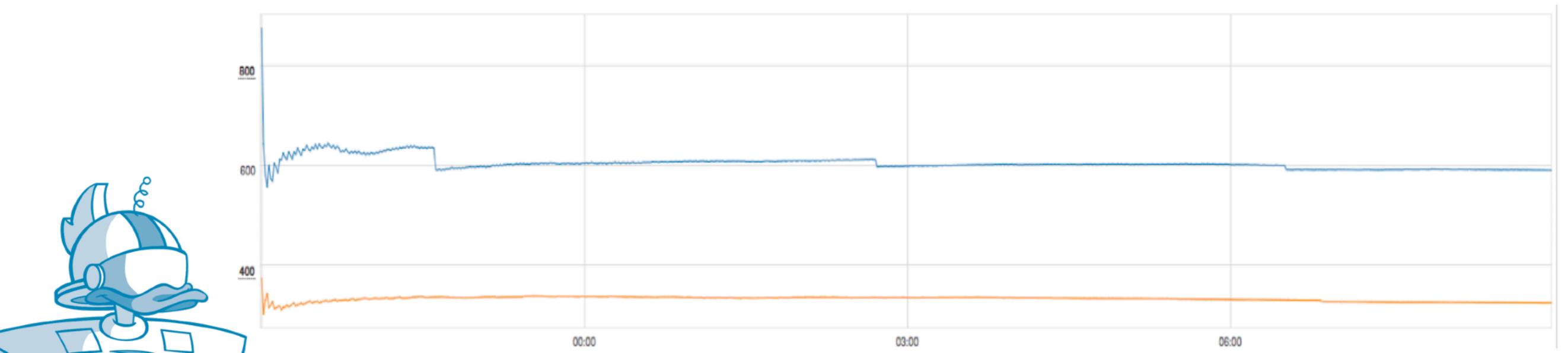
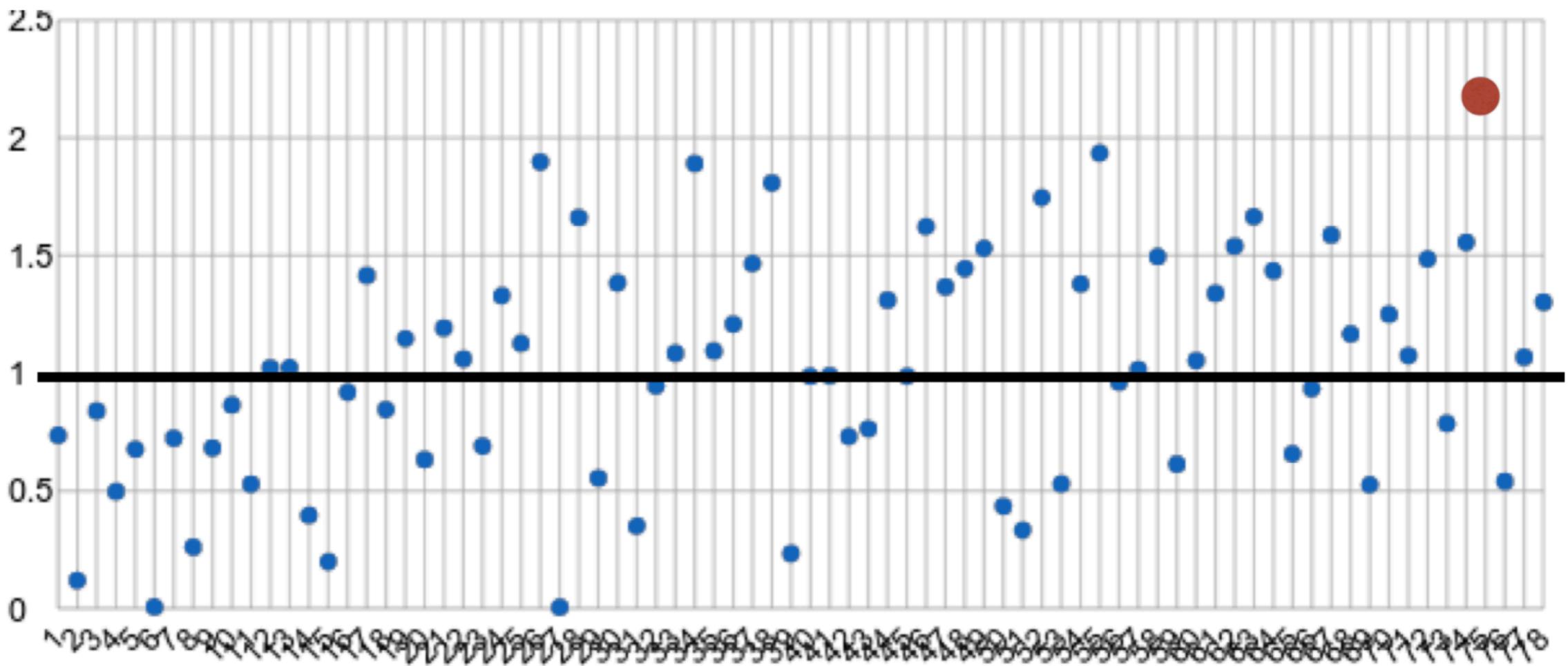








# GizmoDuck & Garbage Collection



# TweetyPie & CPU Utilization



Objective vs. Iteration

