Using Go in DevOps

Natalie Pistunovich
@NataliePis

Requests per Minute (stacked)
Errors
Total API Request Latency
Heap Sizes
Total API Request Latency Histogram
Average API Request Latency

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Errors
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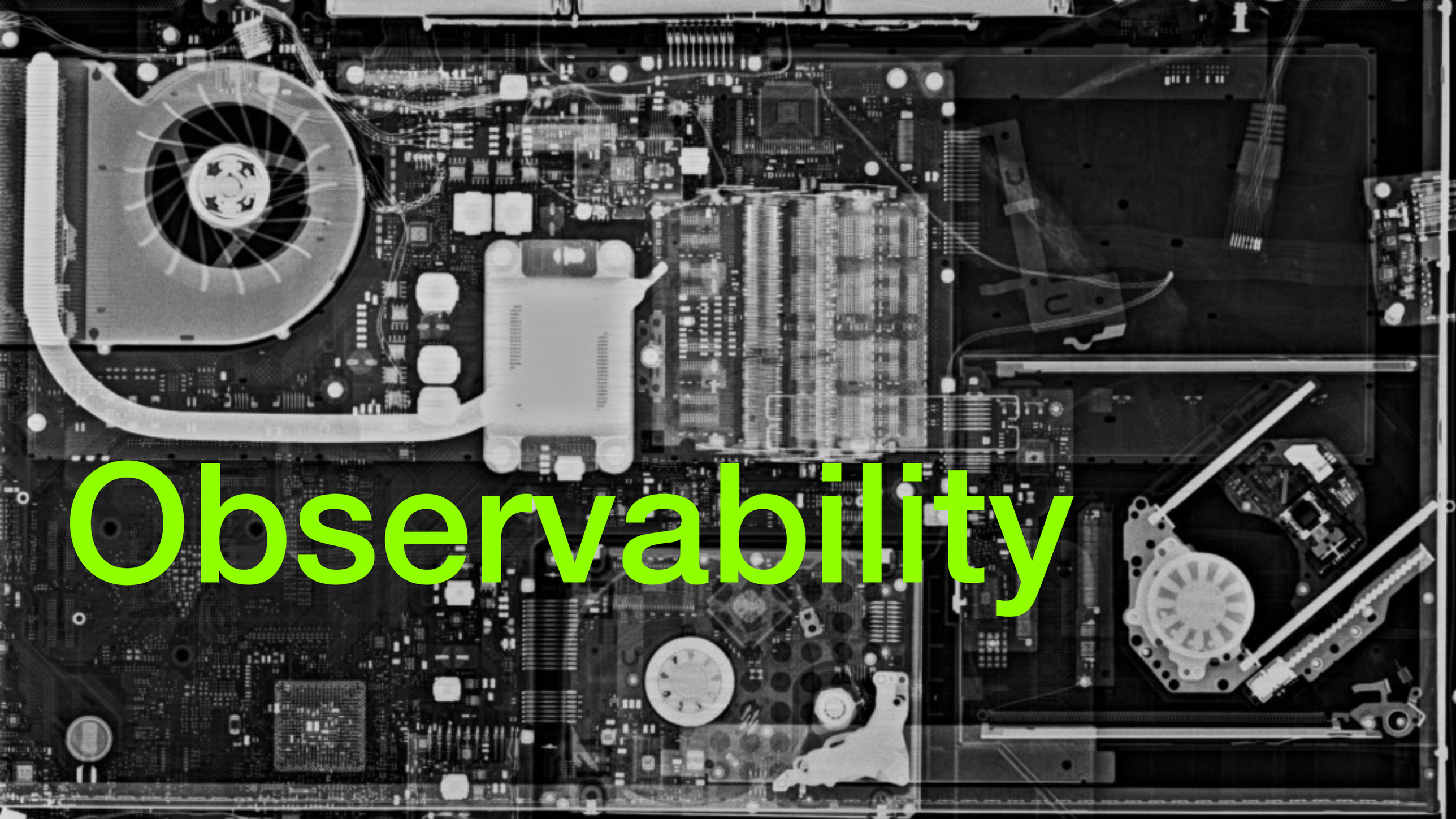
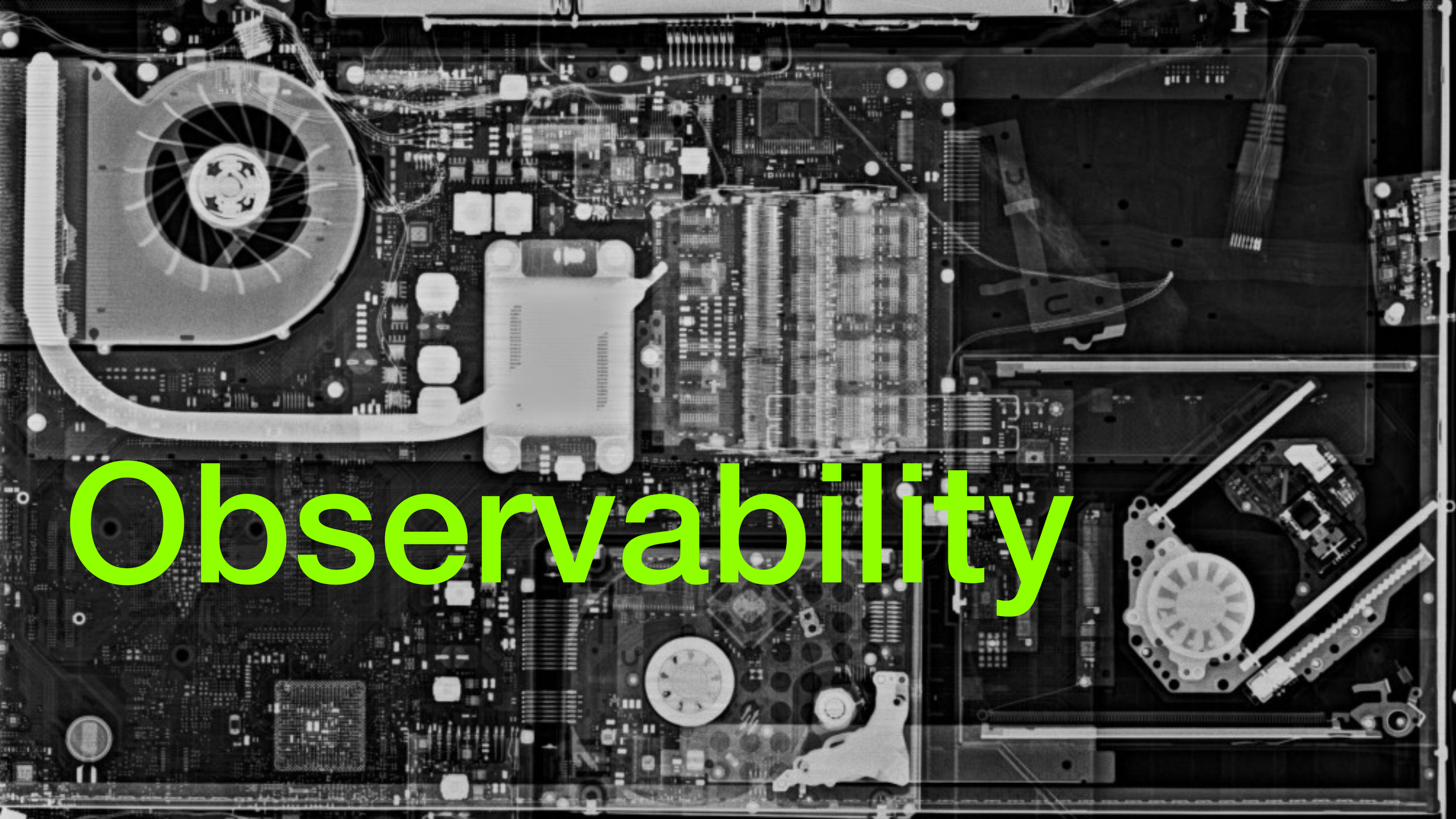


Observability



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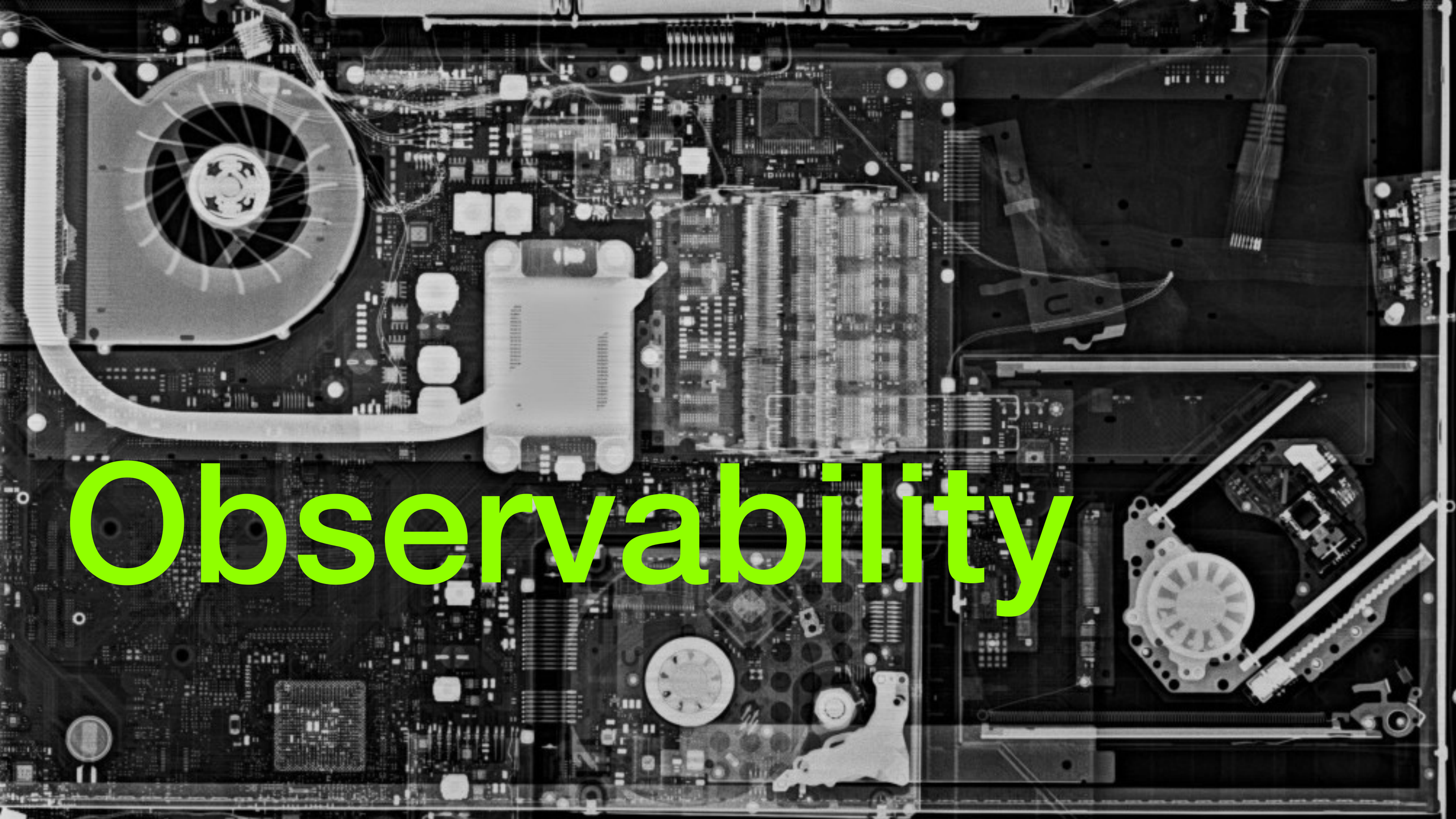

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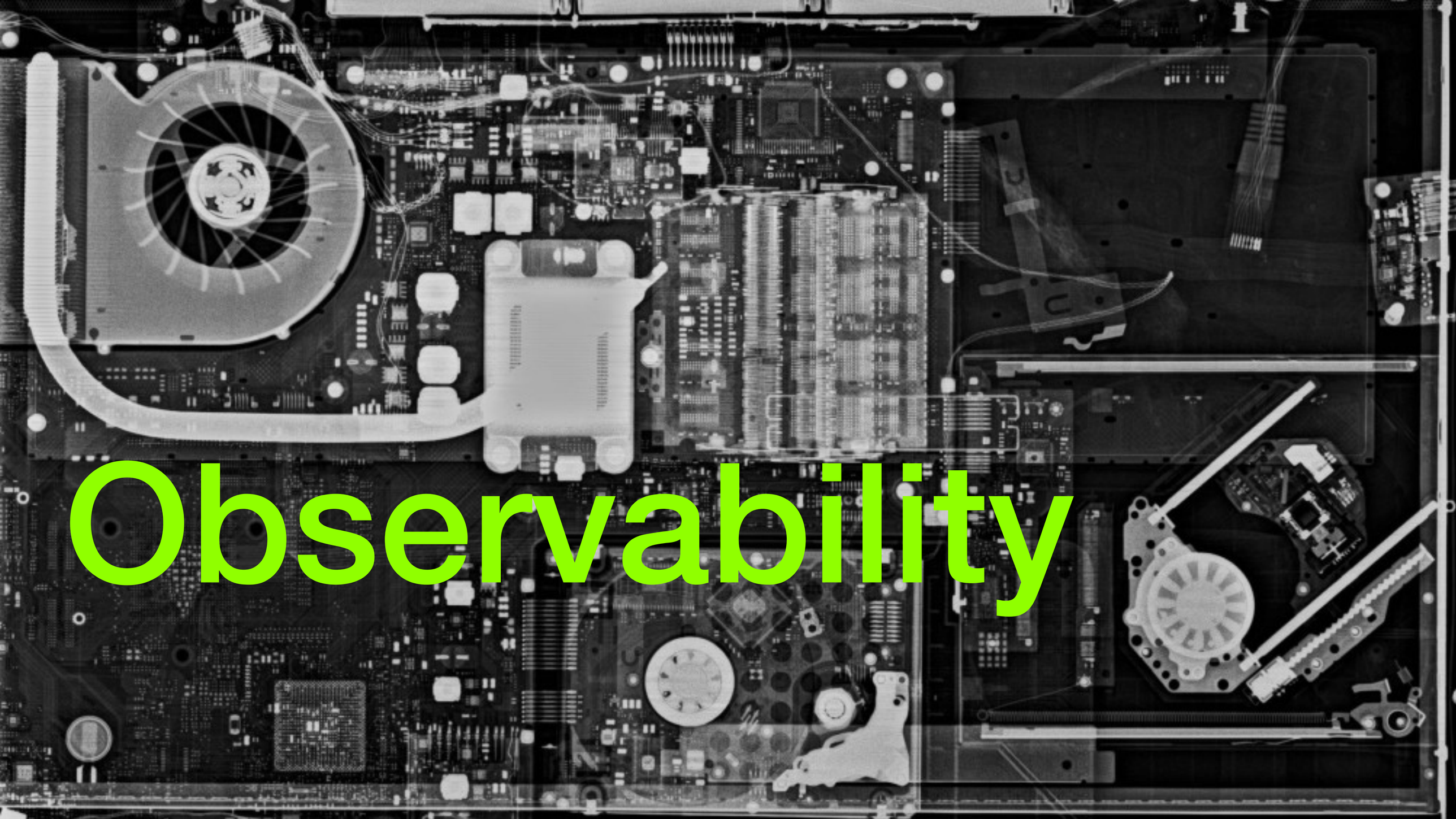

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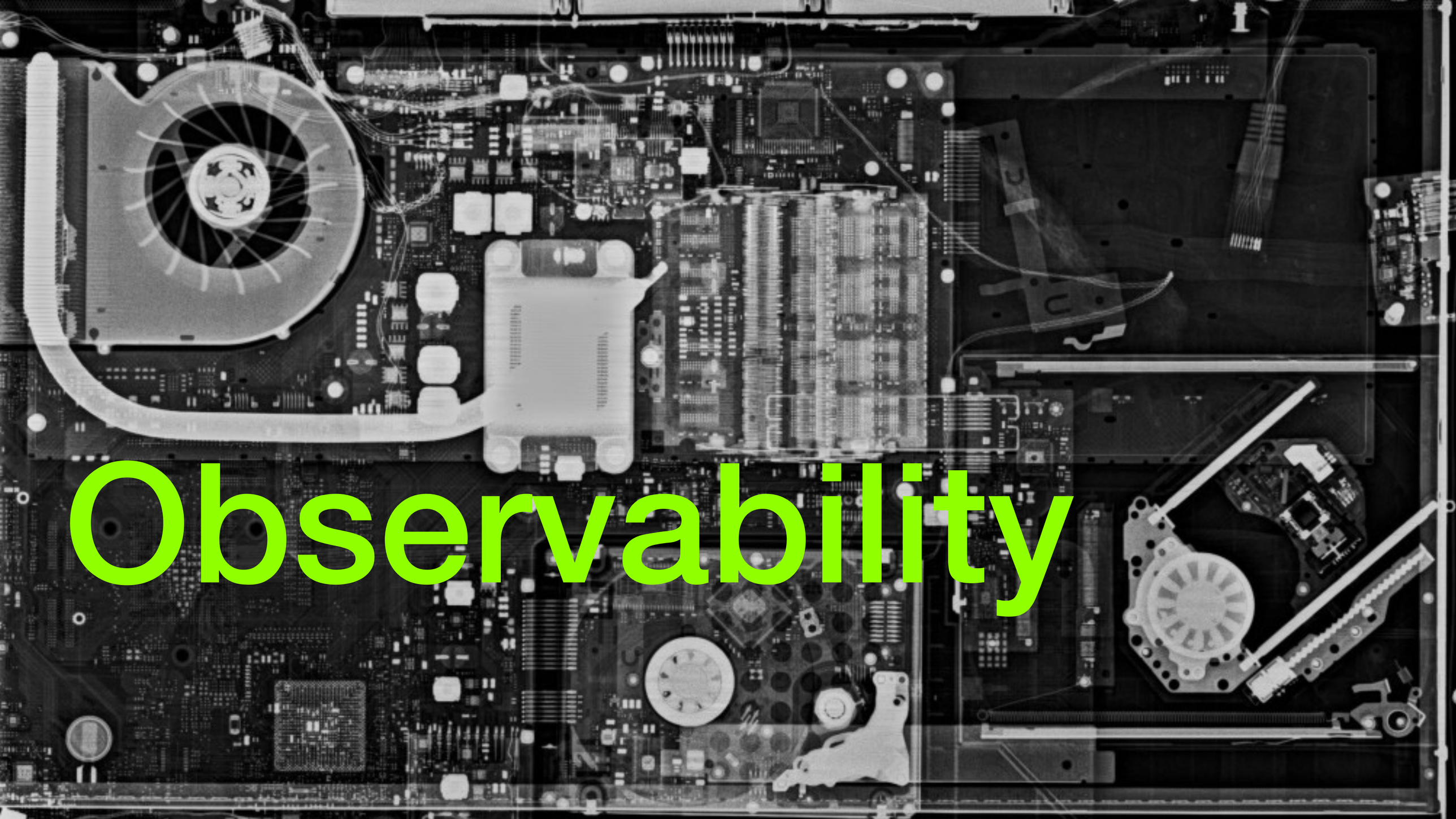

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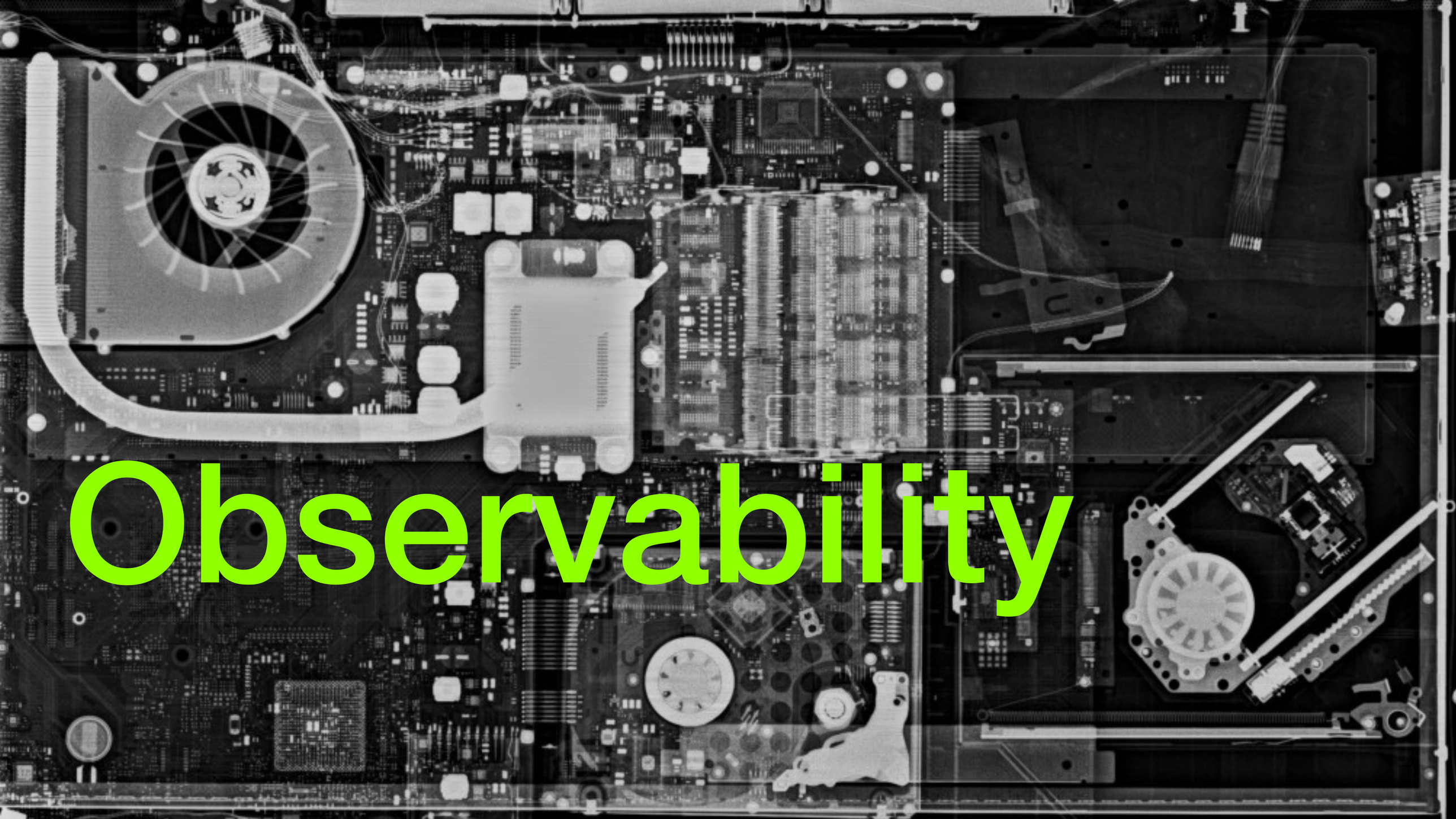

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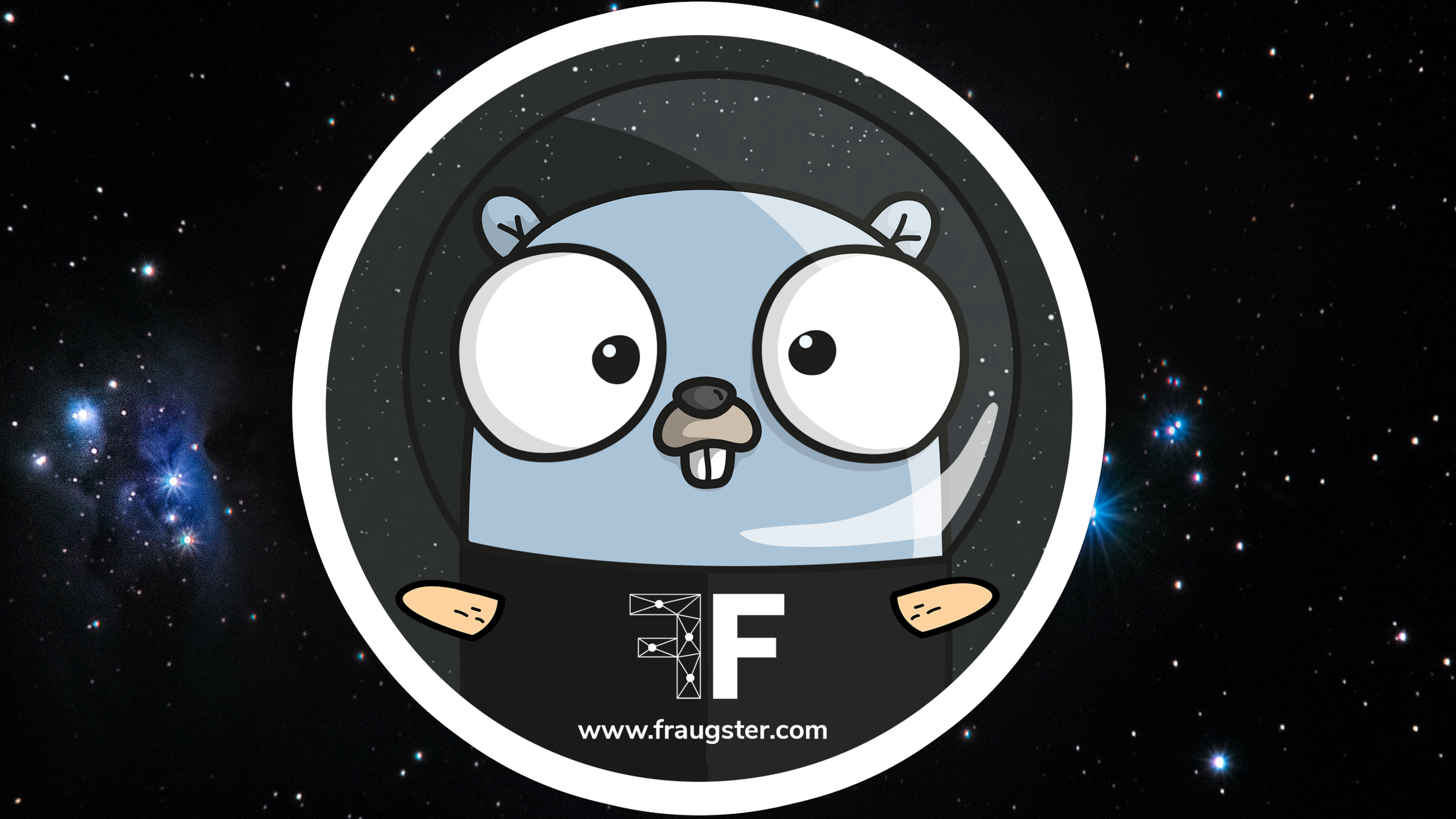
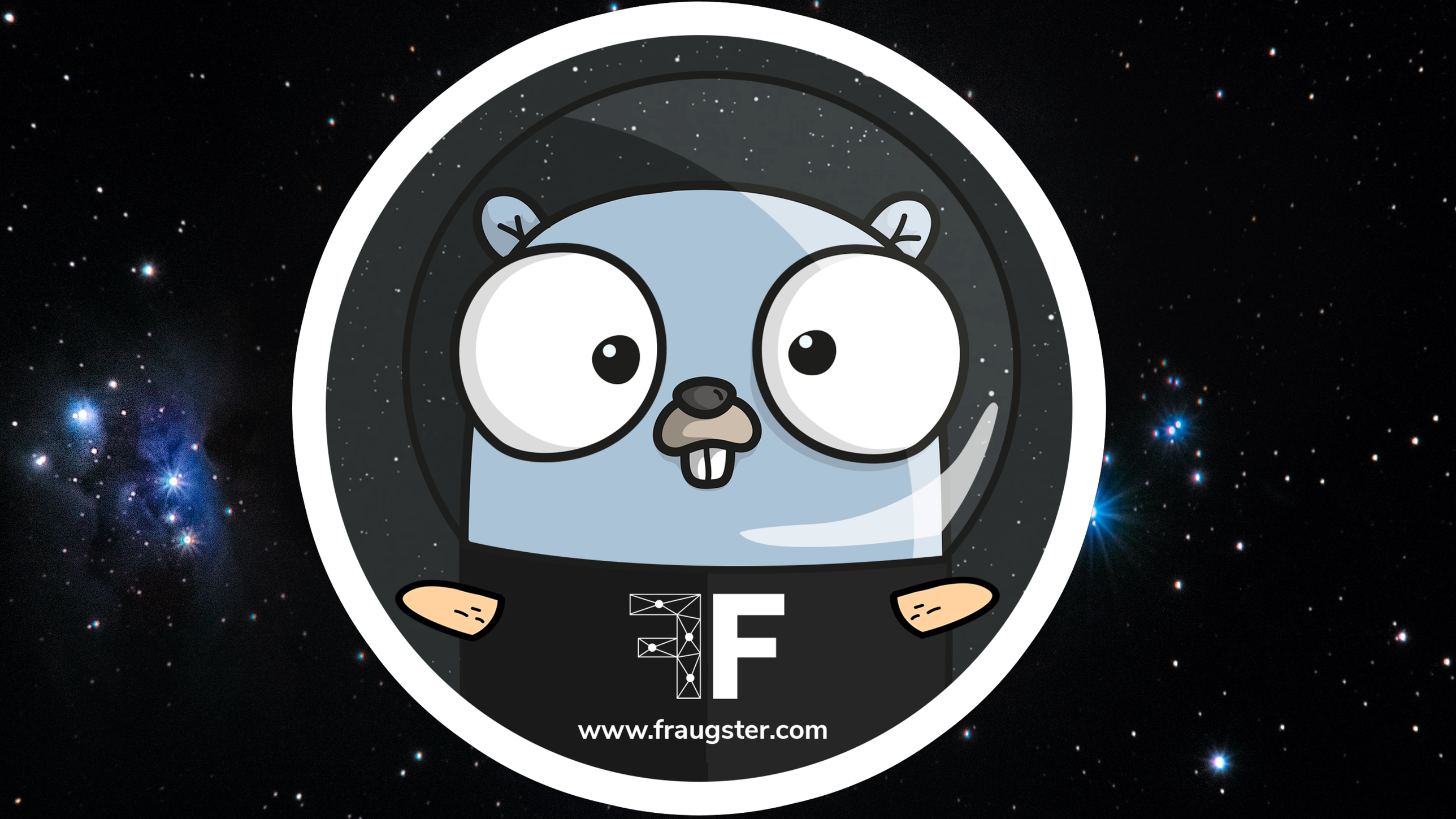

F
www.fraugster.com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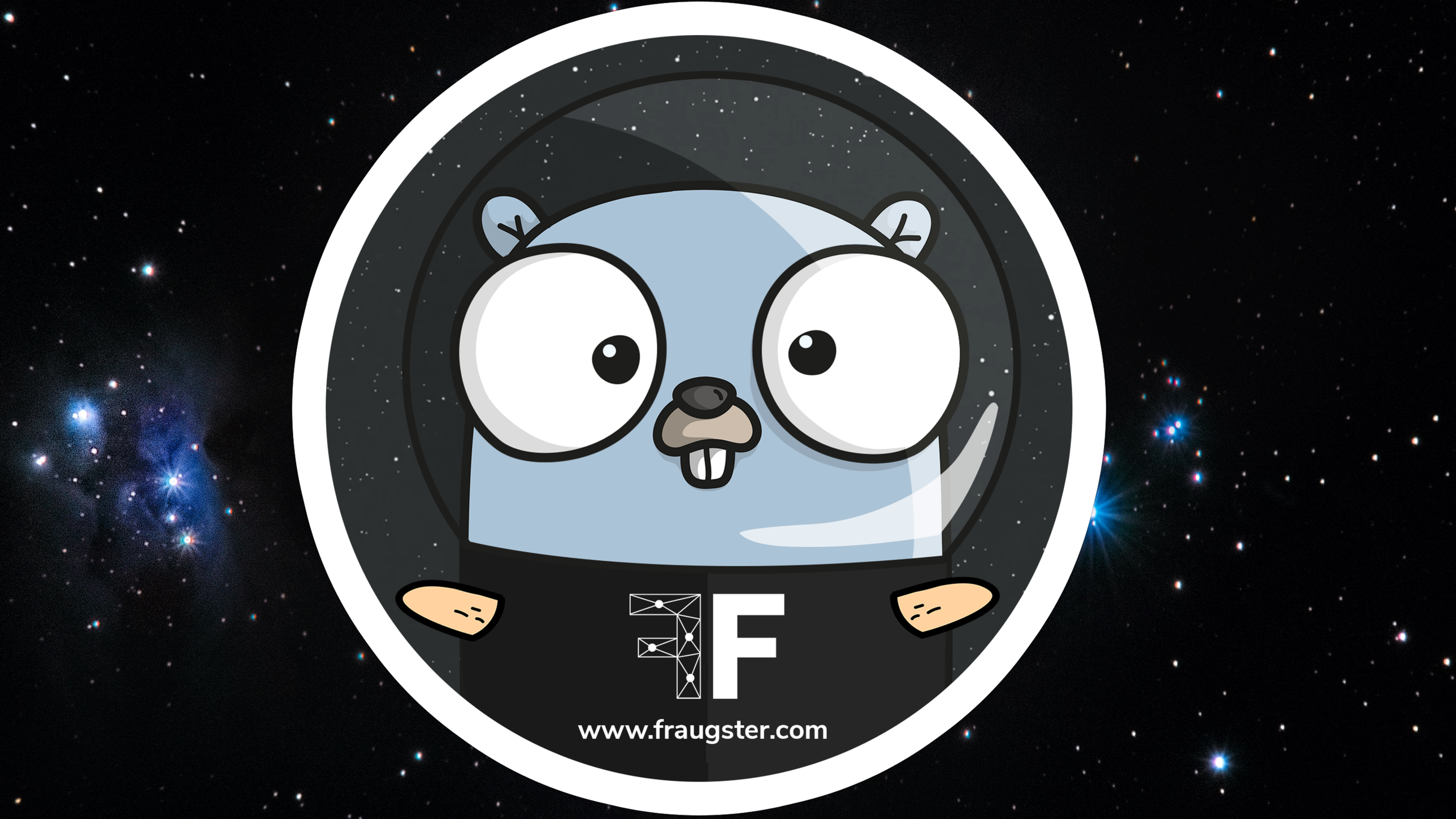
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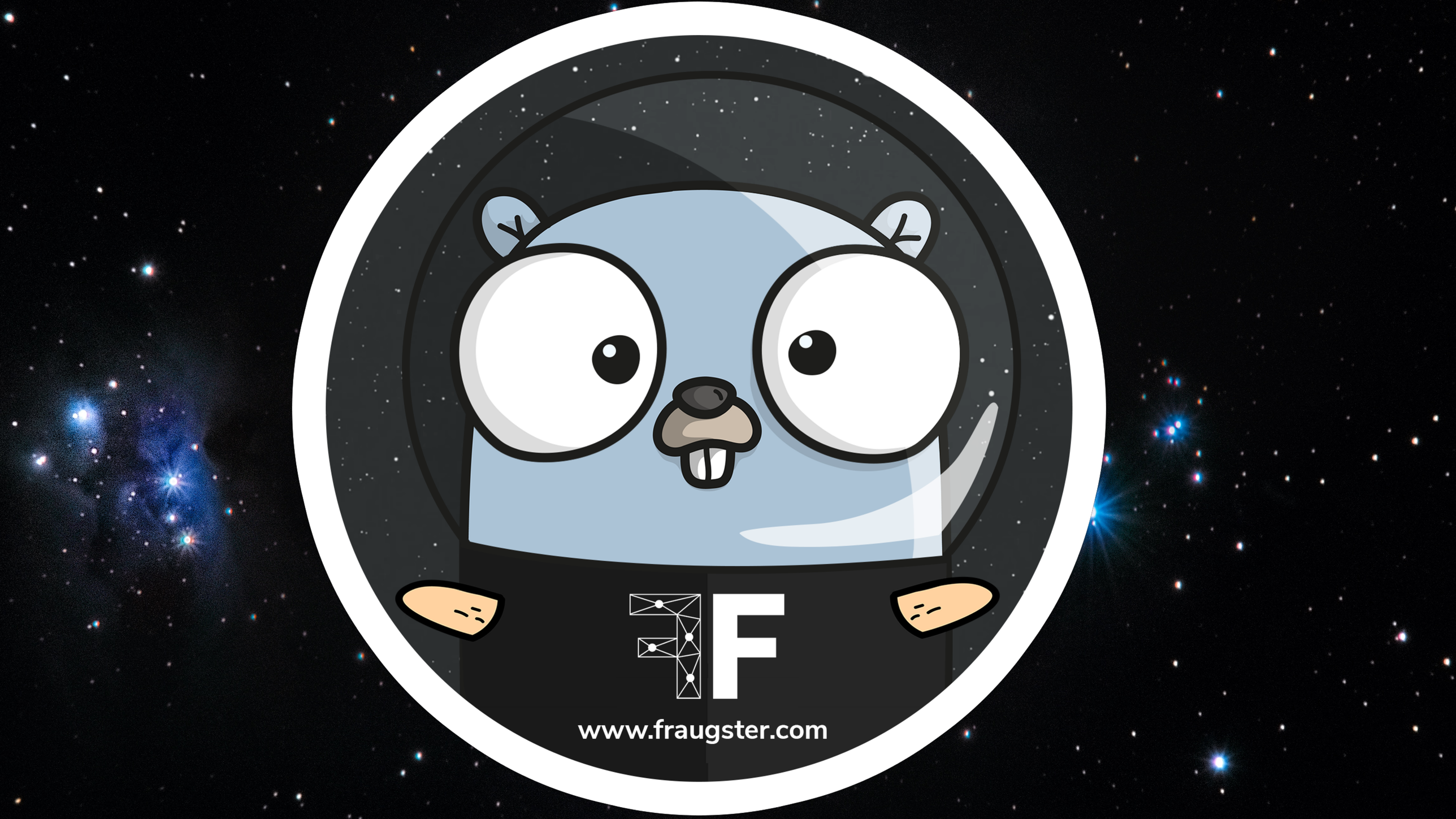
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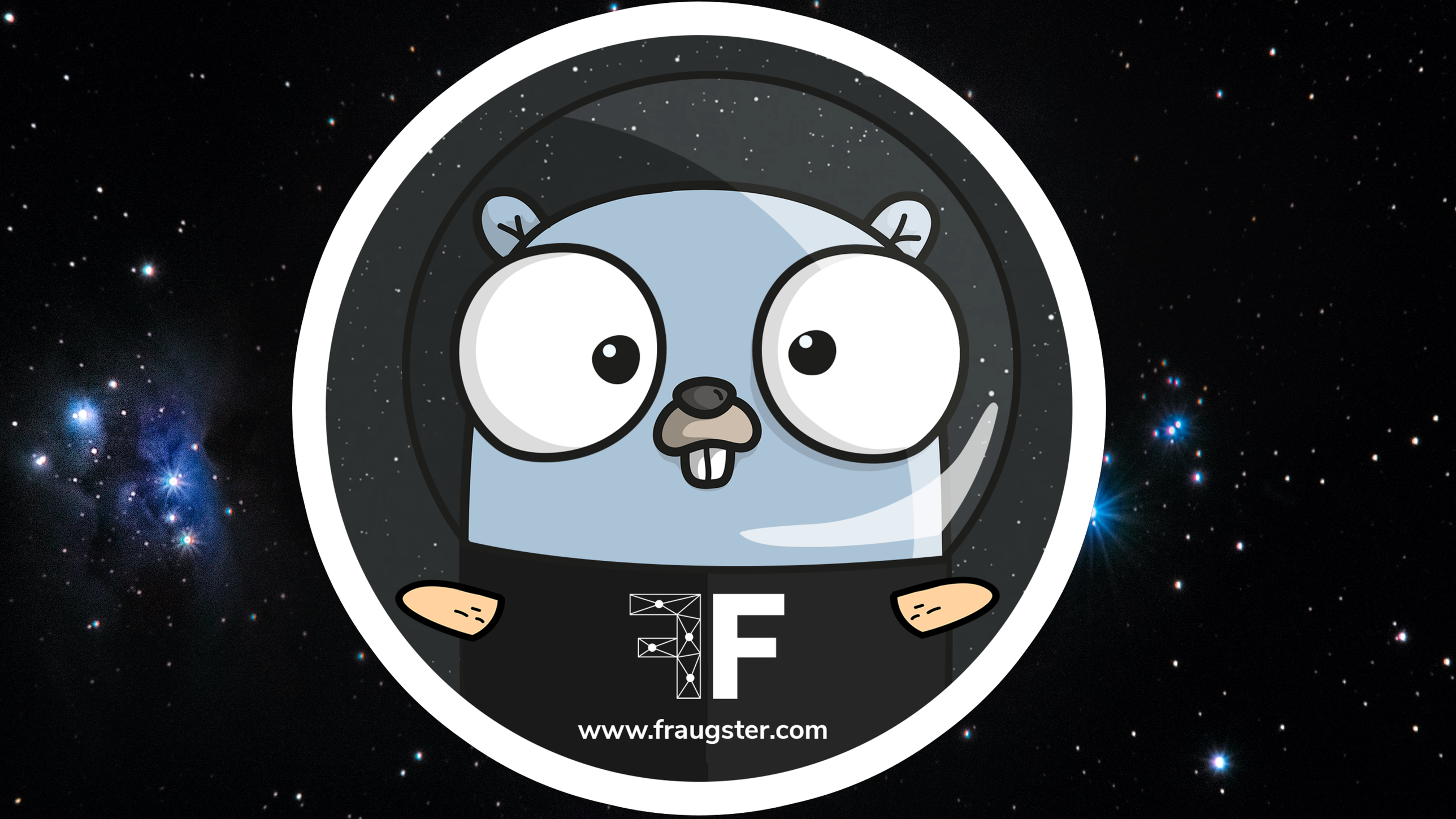
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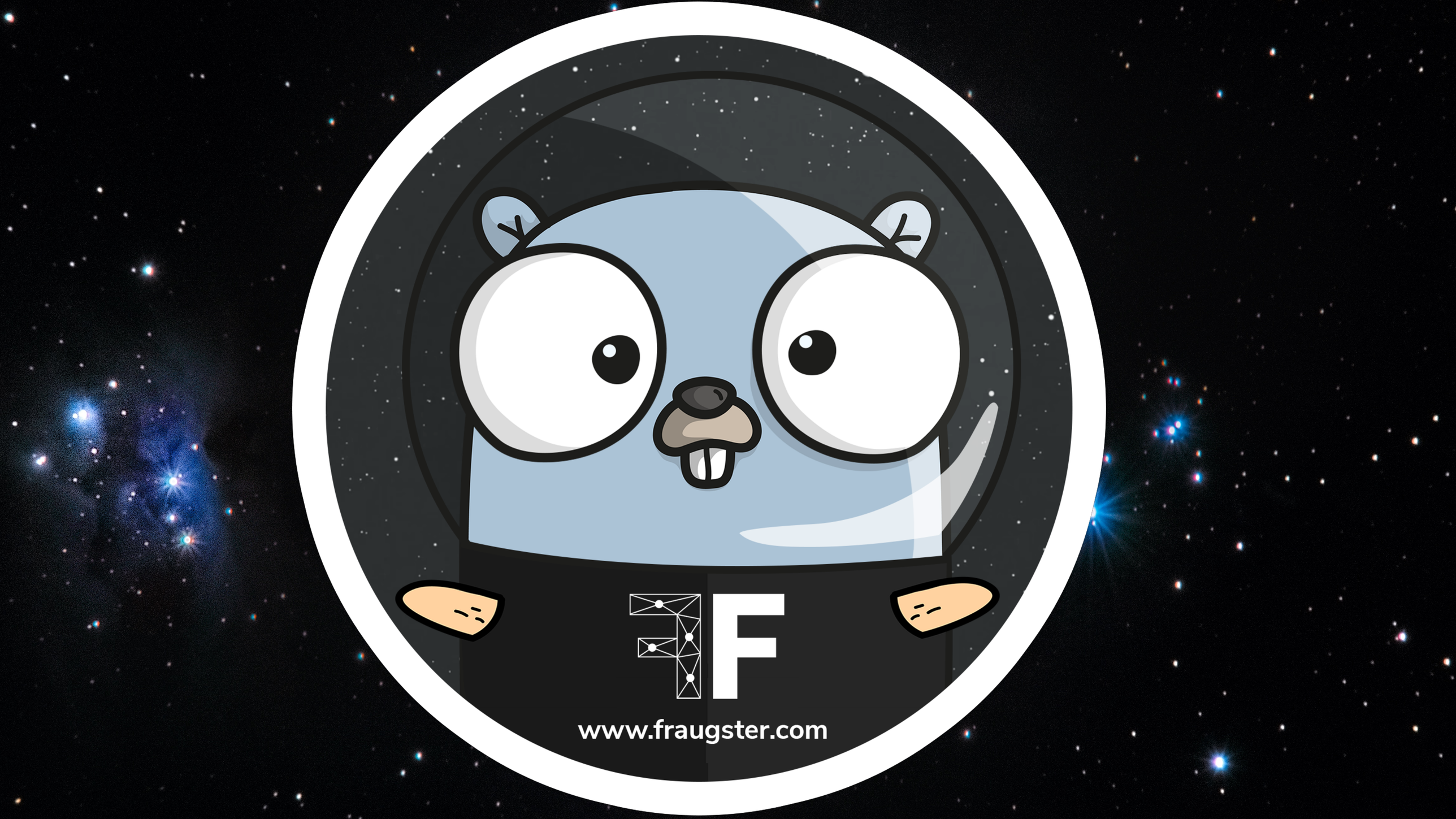
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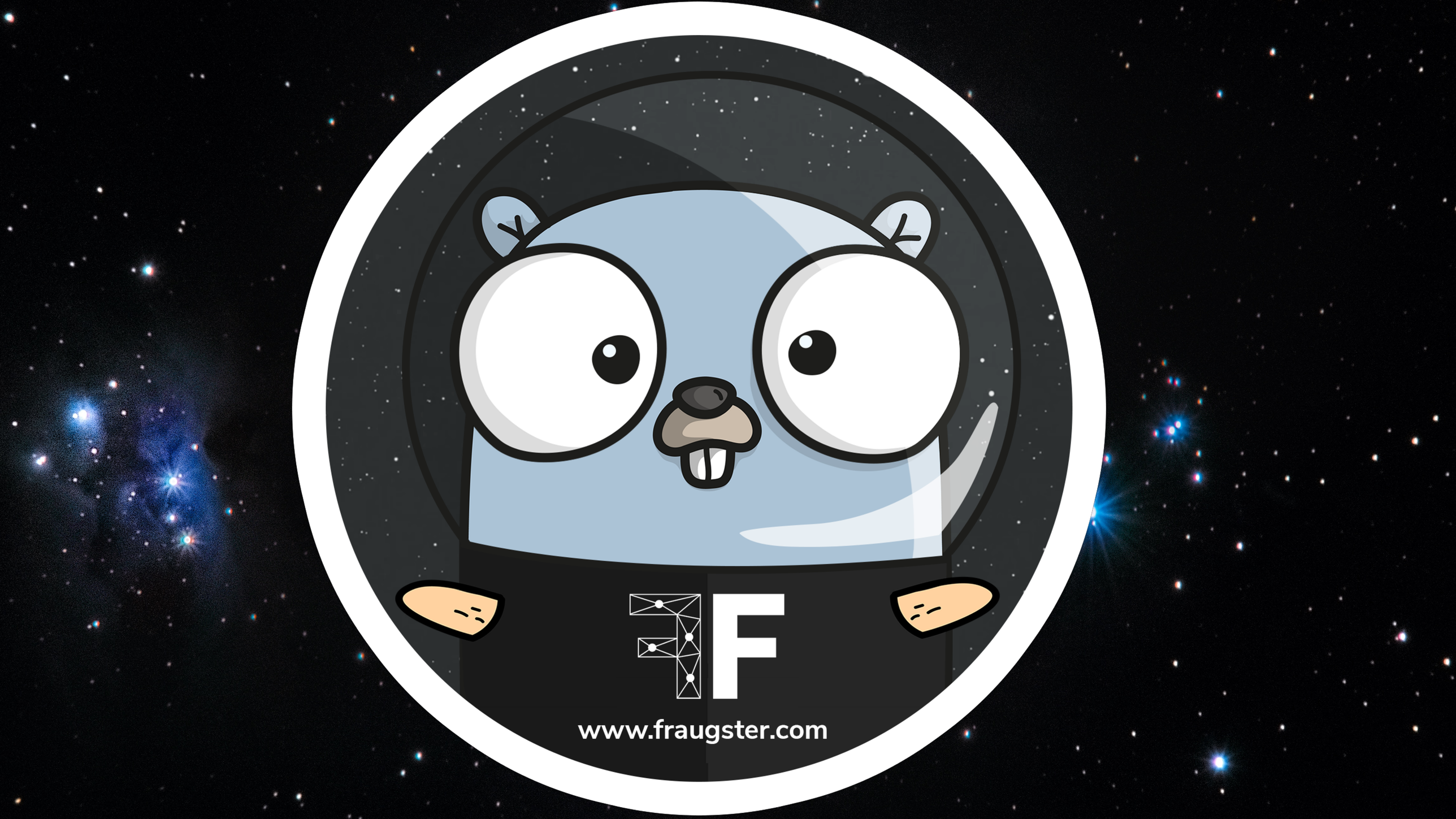
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www.fraugster.com

- Intro to Go
- OPS/SRE Tools in Go
- What’s Next?

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- What’s Next?

branding.php
styles.css
home.php
about.php
section.lead h2 {
padding:20px 0px;
}
section.lead p {
font-size: 10px;
}
section.lead .text {
vertical-align: center;
padding: 100px 100px;
}
section.lead {
vertical-align: center;
padding: 100px 0px;
text-align: center;
}
section.content {
padding: 100px 0px;
background-color: #c327e2;
}
section.content [class*=col] {
background-color: white;
min-height: 450px;
padding: 5%;
}
section.content [class*=col]:first-child {
border-right: 1px solid #eaeaea;
}
section.content .row {
padding: 50px 0px;
}
section.content h3 {
padding: 0px 0px 20px 0px;
}
53 results found for 'col'
col
Replace in current buffer

2. vim (vim)

```
                    VIM - Vi IMproved

                    version 8.0.1283
                by Bram Moolenaar et al.
      Vim is open source and freely distributable

             Help poor children in Uganda!
type  :help iccf<Enter>       for information

type  :q<Enter>               to exit
type  :help<Enter>  or  <F1>  for on-line help
type  :help version8<Enter>   for version info
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Write code with Go instead of throwaway scripts
~
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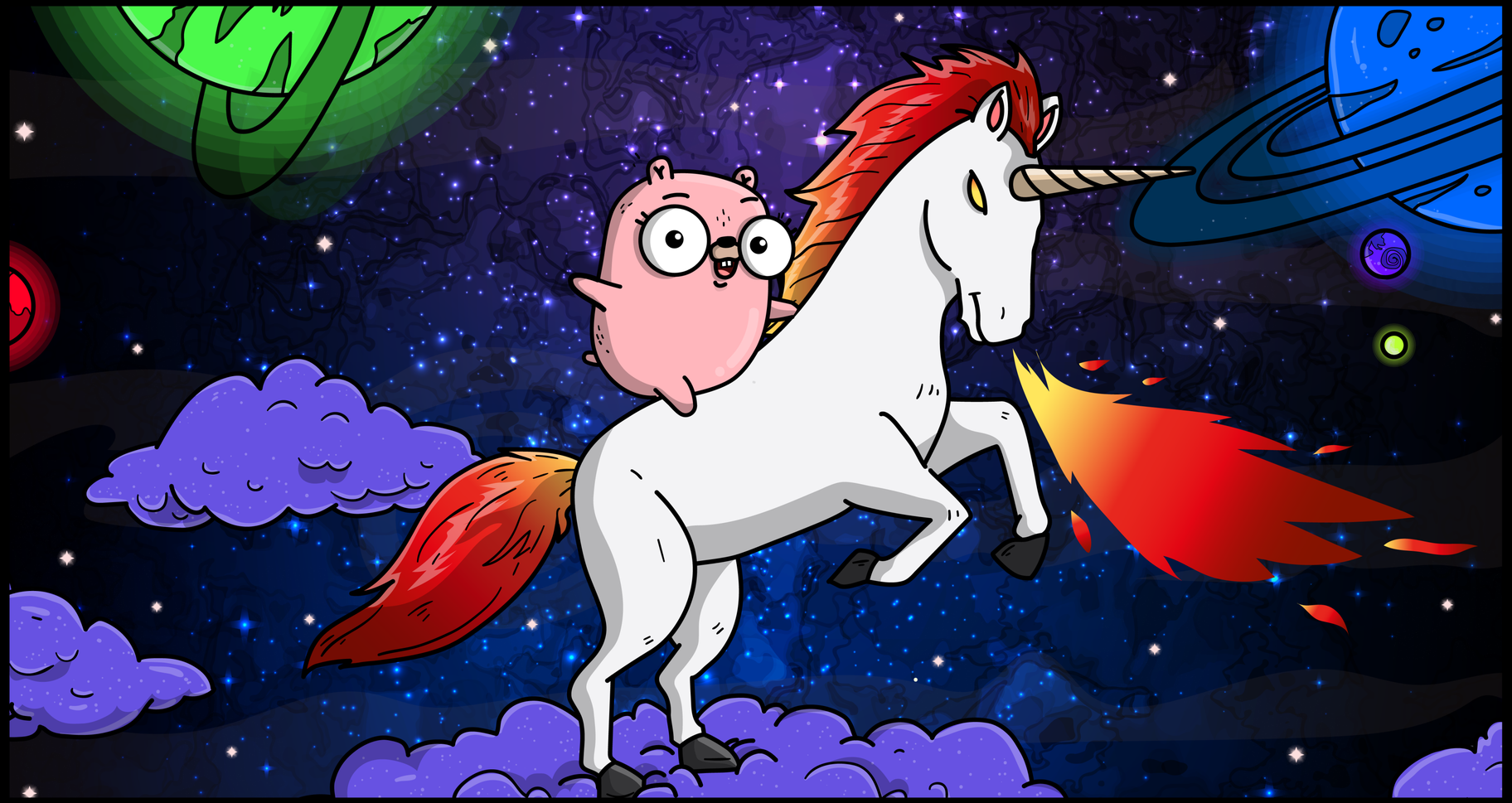
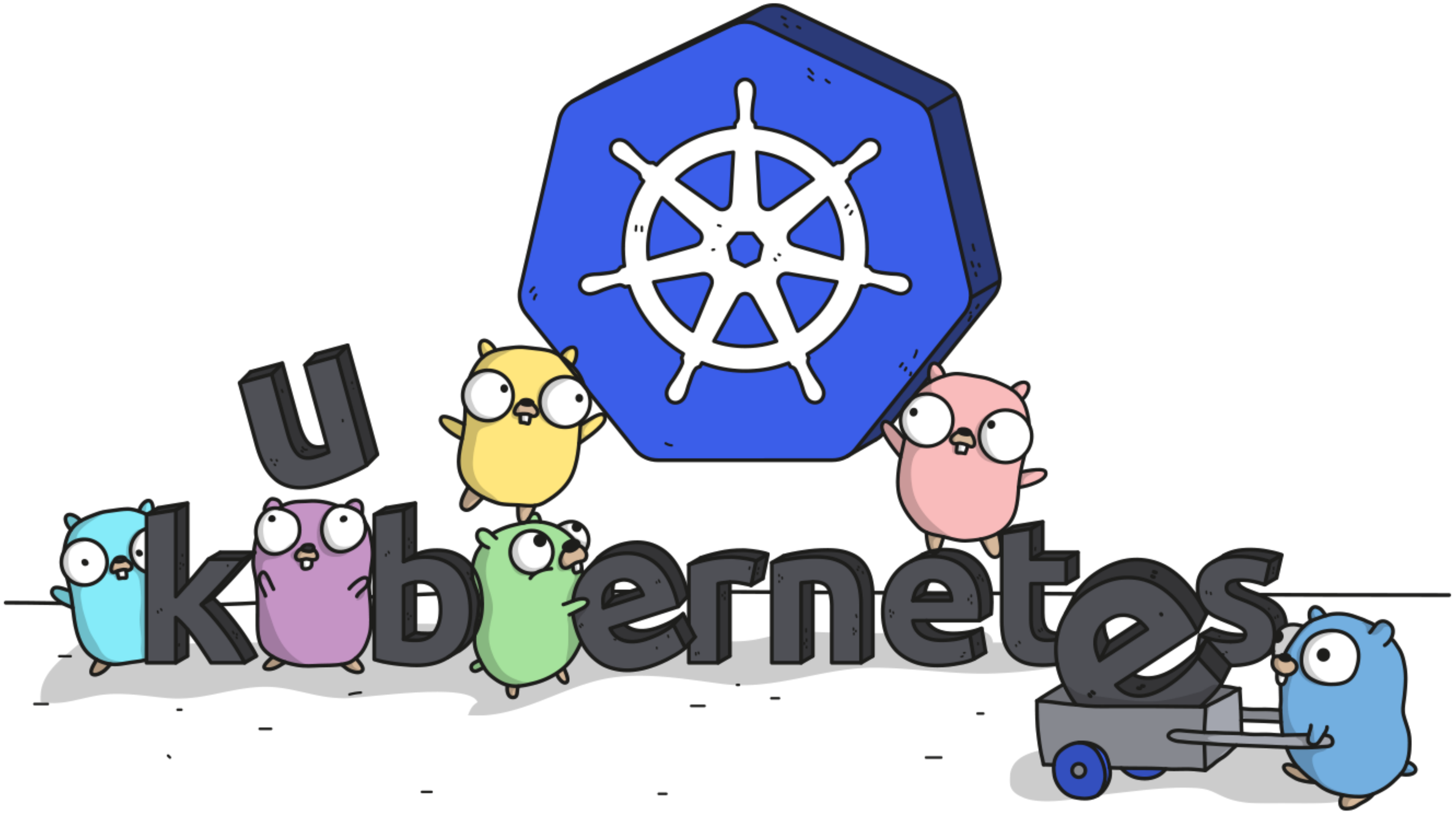


Ops Tools in Go

kubernetes

kubernetes

kubernetes


u
kubernetes

HELM

HELM

Prometheus

Prometheus

Prometheus

Prometheus

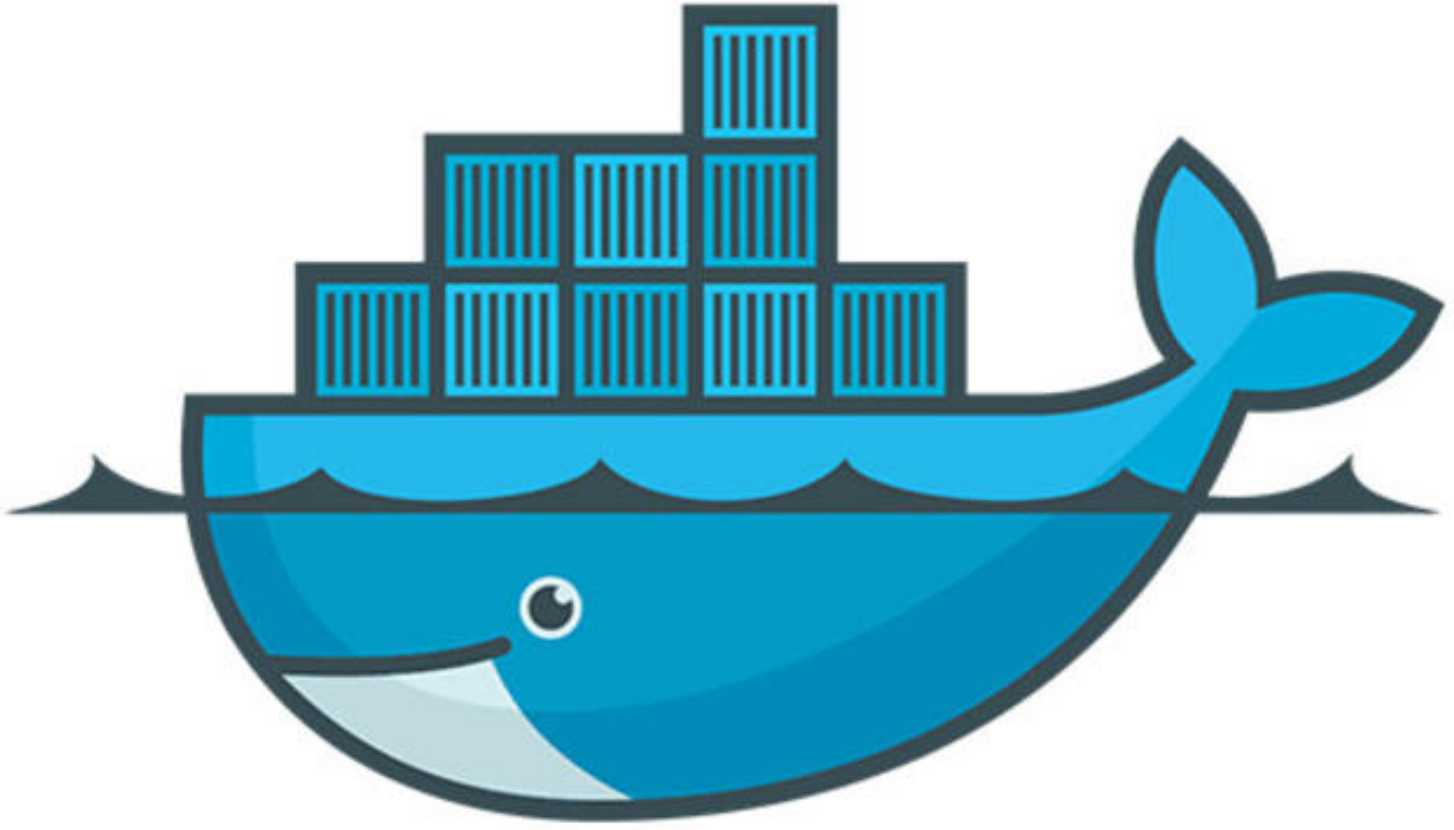
Prometheus

etcd

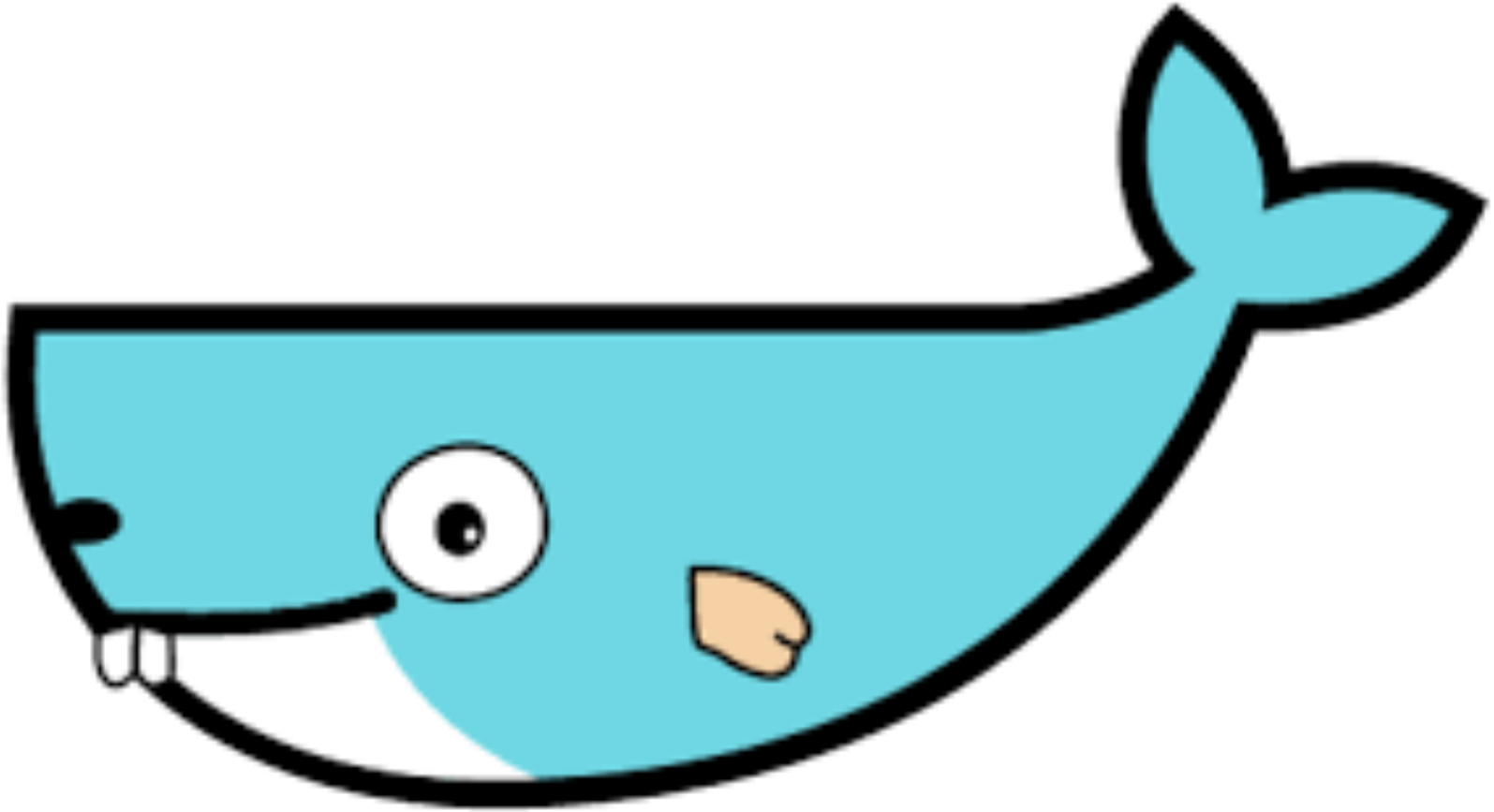
etcd

etcd

etcd



docker



docker

Grafana

Grafana

Grafana

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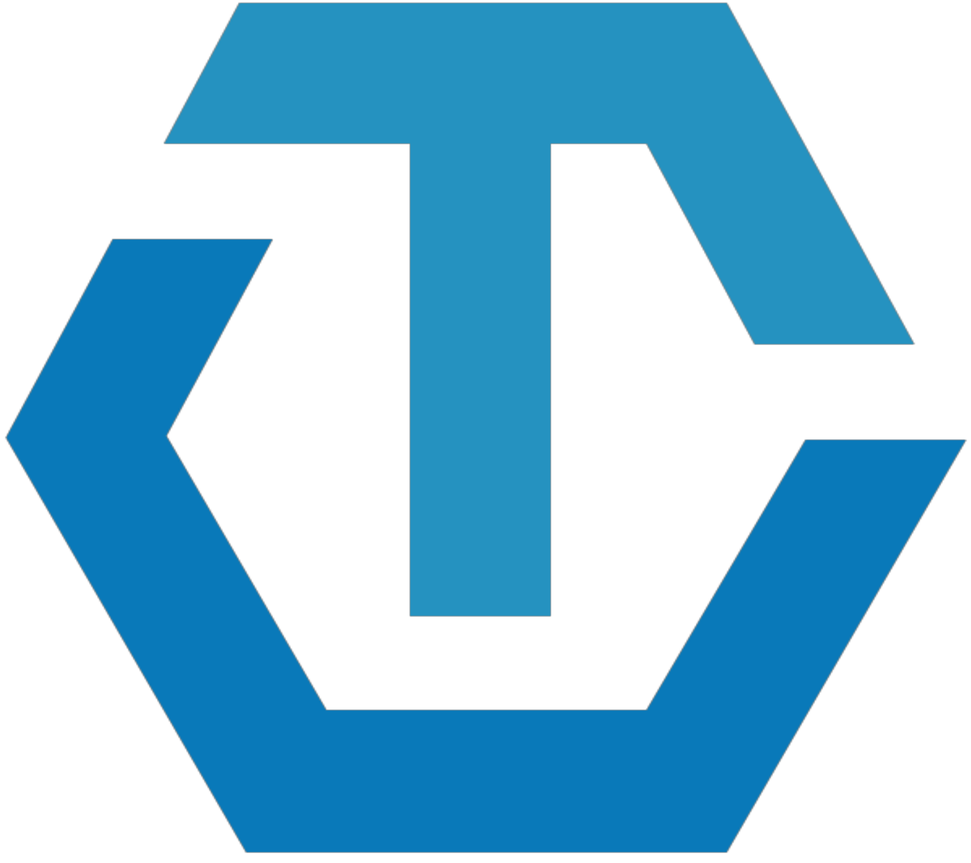
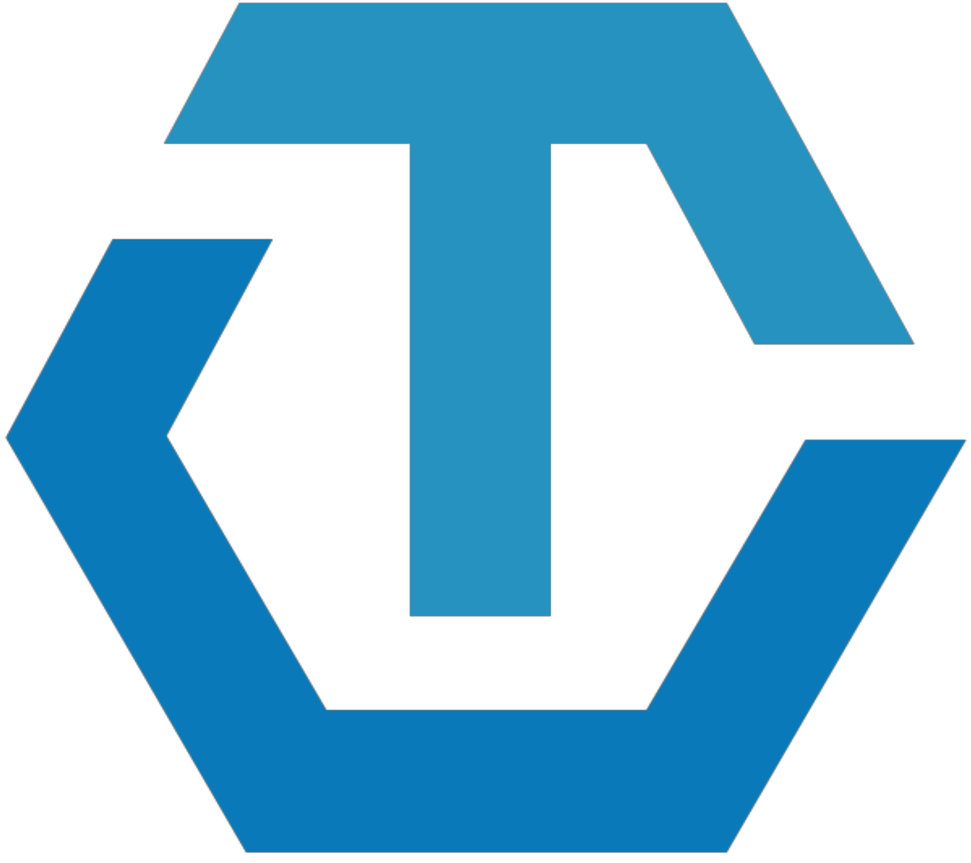


OPENTRACING



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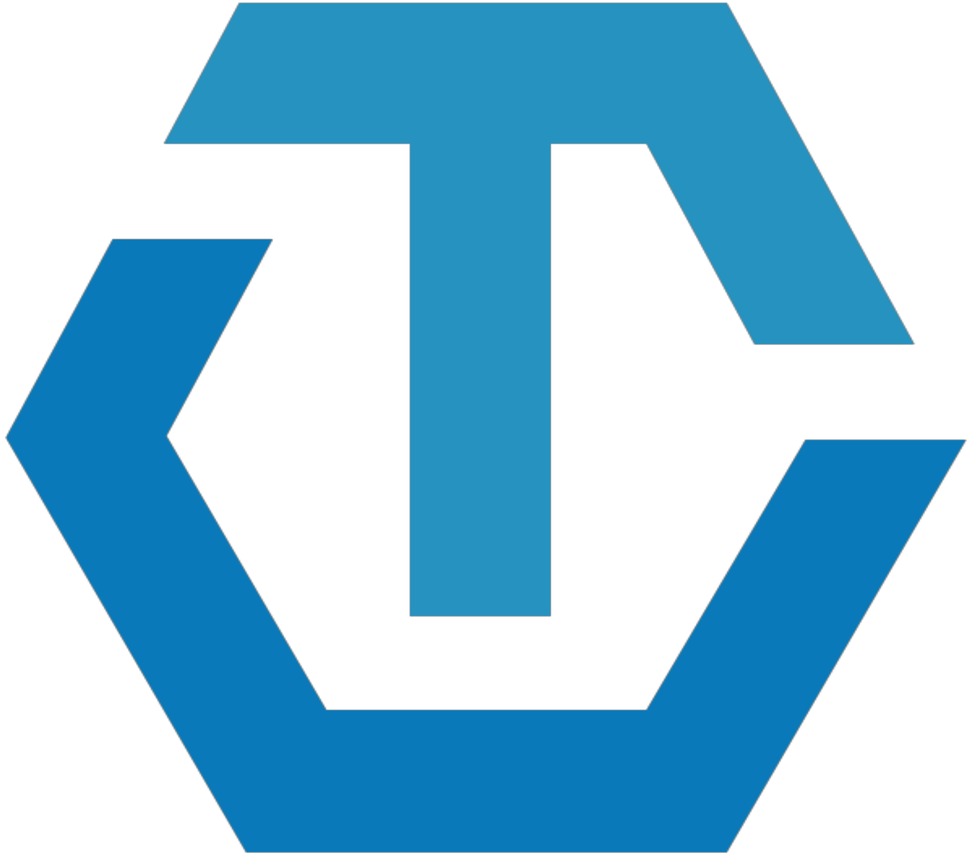

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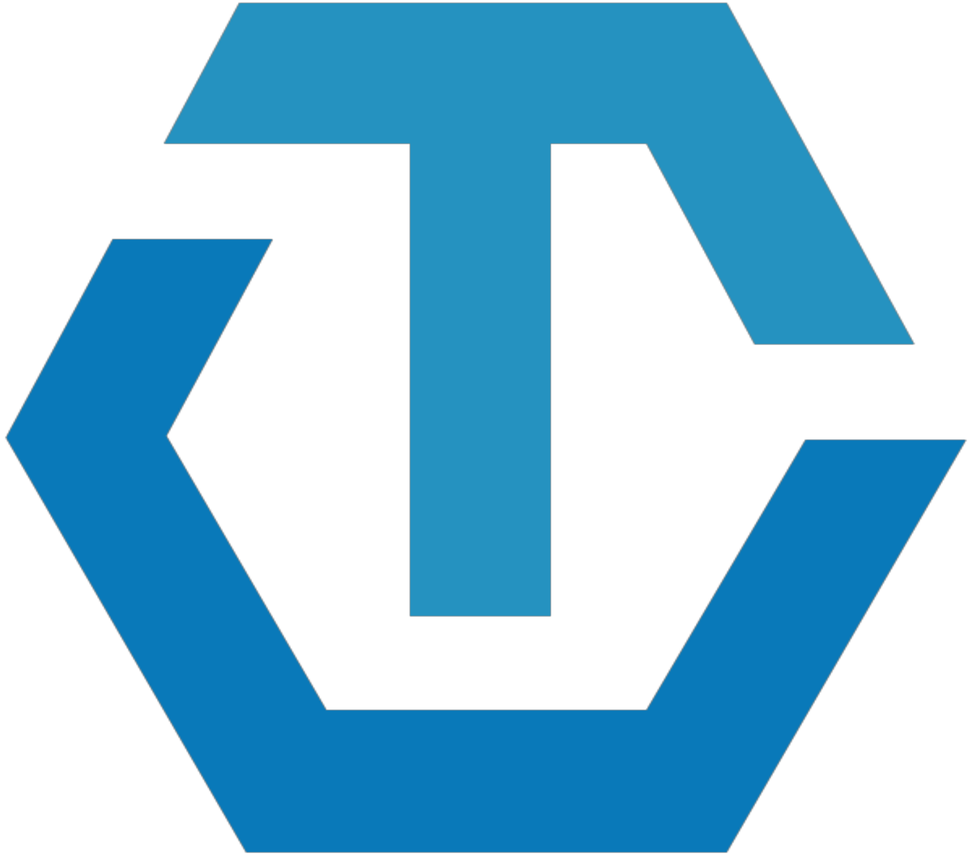

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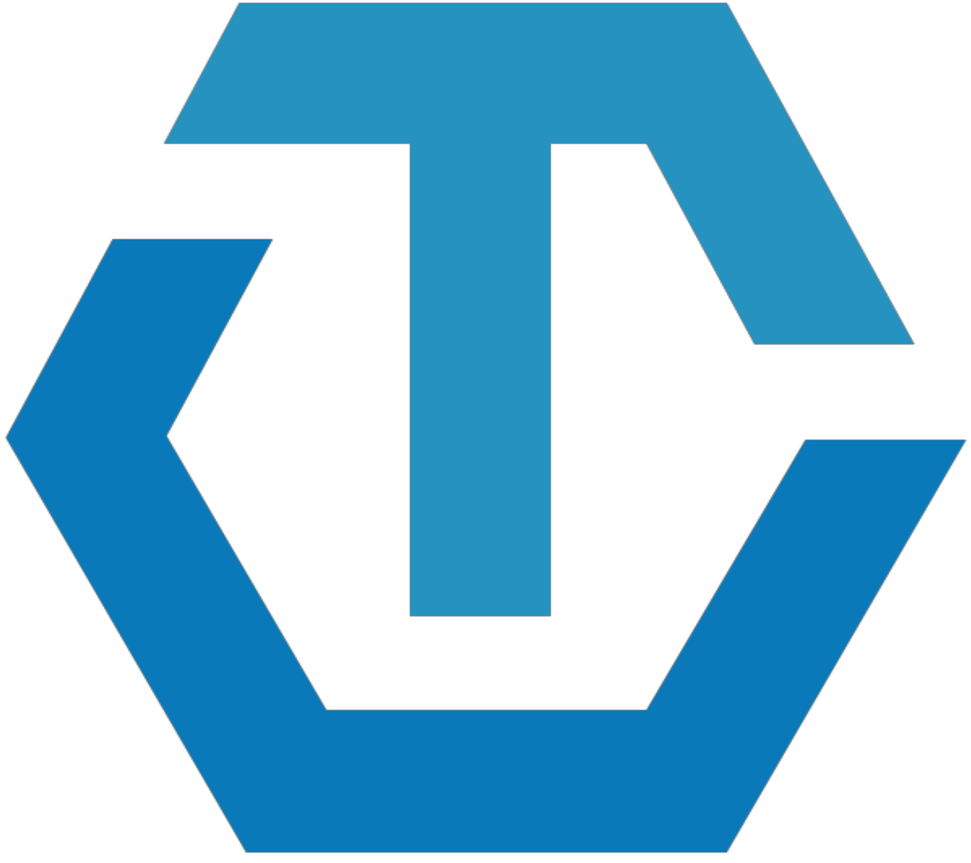

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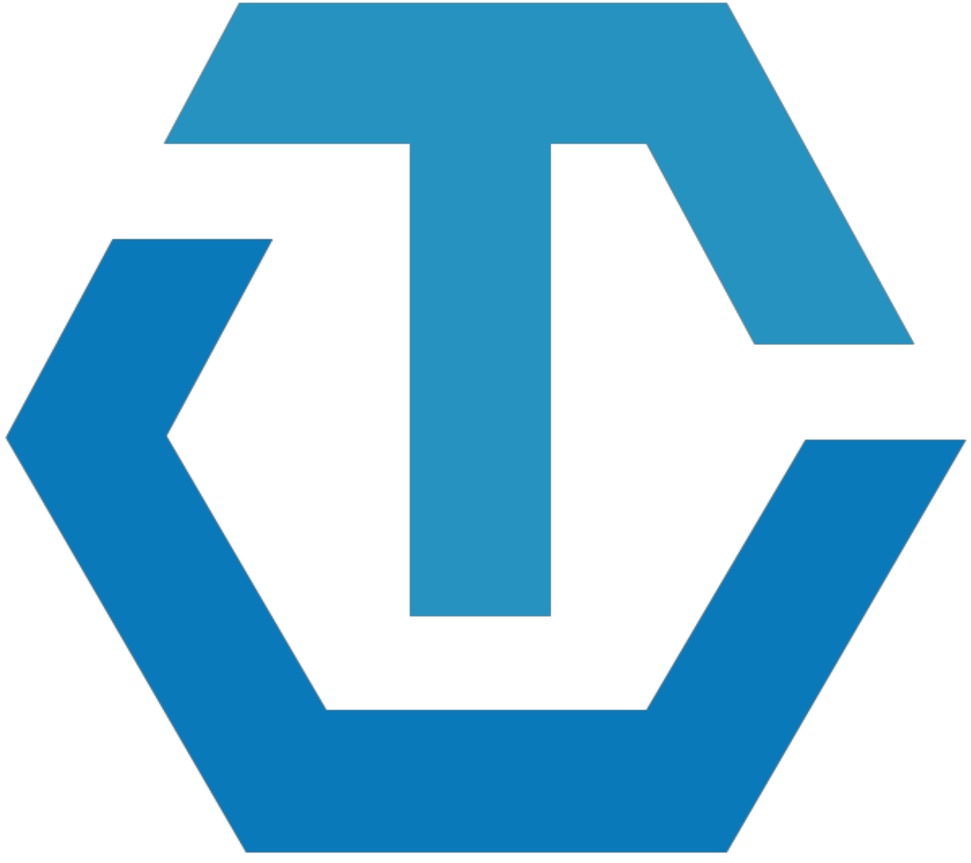

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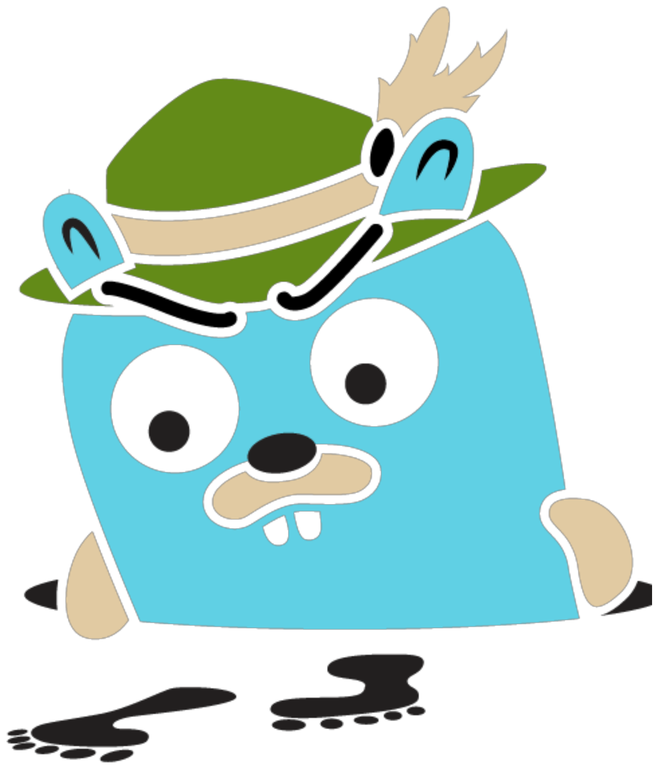
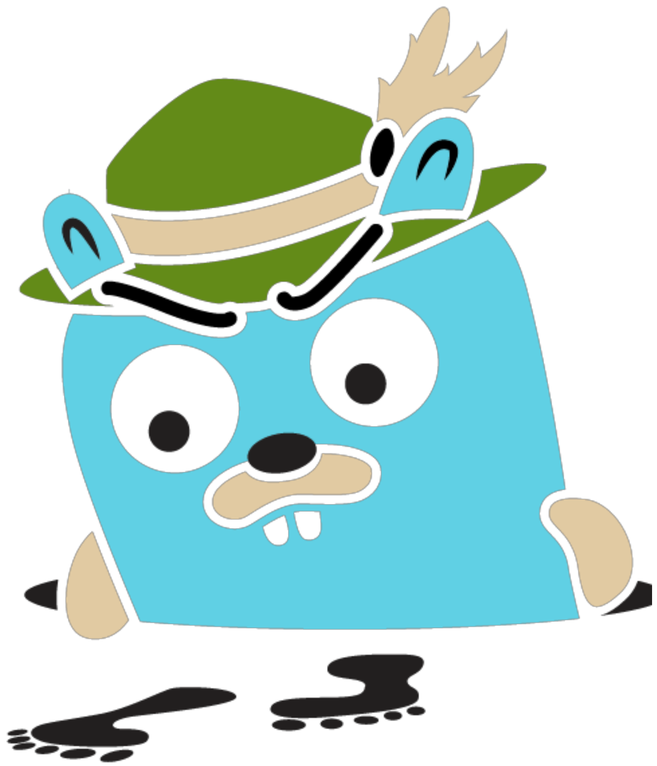
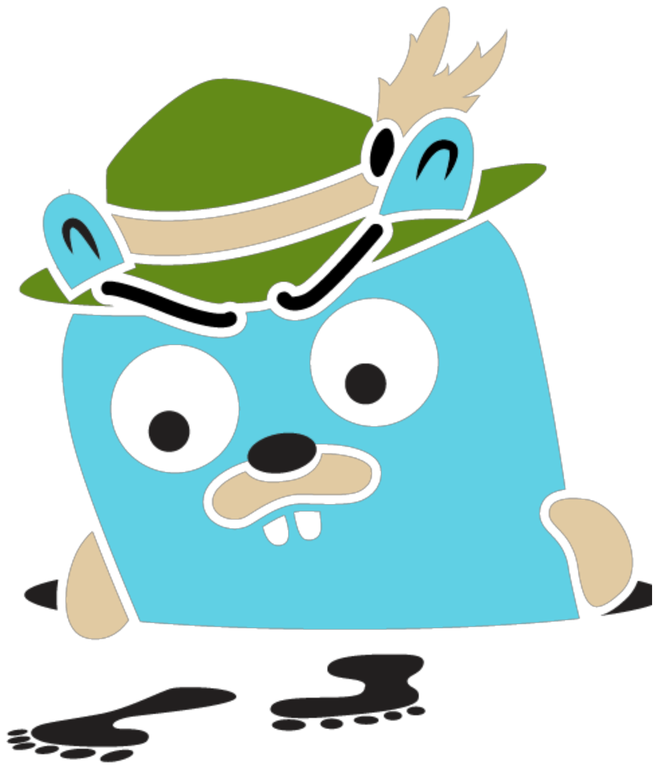


JAEGER



JAEGER



JAEGER

honeycomb

honeycomb

ISTIO

ISTIO

ISTIO

ISTIO

ISTIO

kubernetes

HELM

Prometheus

docker

etcd

Grafana

OPENTRACING

JAEGER

honeycomb

ISTIO

Intro to Go

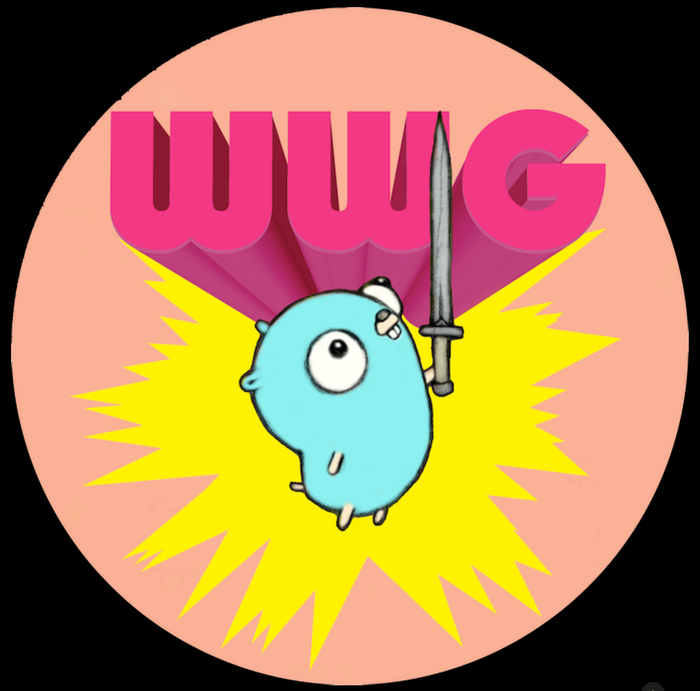
GO

GO

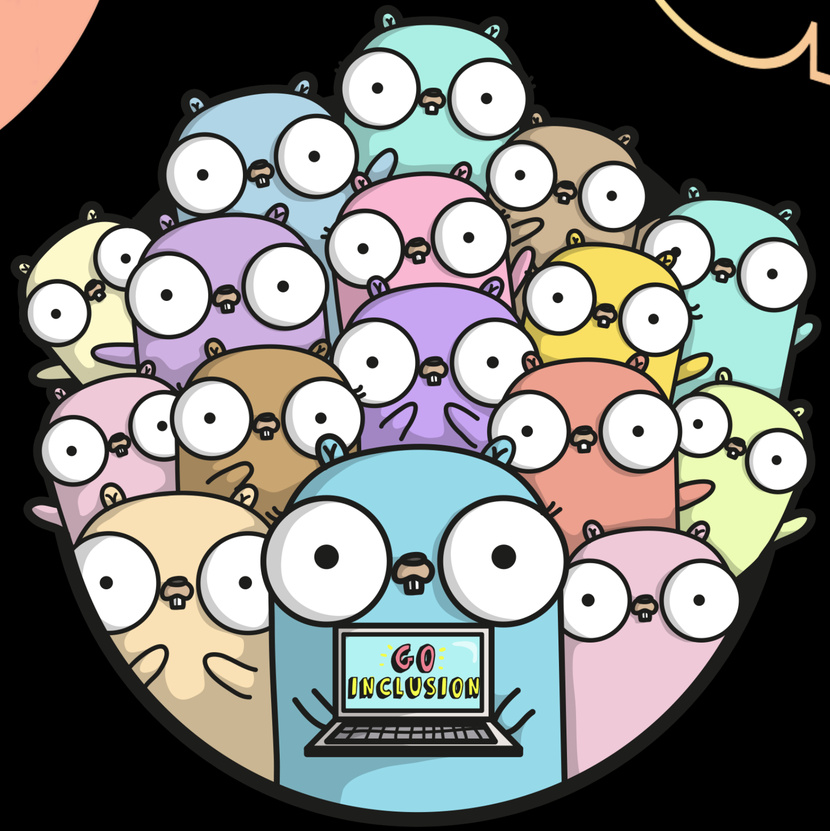
GO
COMMUNITY
GO
GO

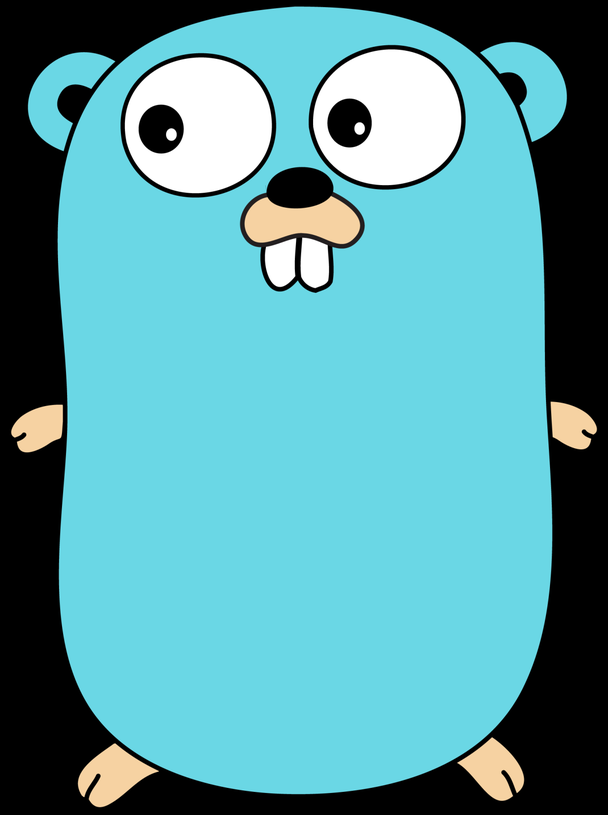
GO
COMMUNITY
GO
GO

GO
COMMUNITY
GO
GO



GoB3

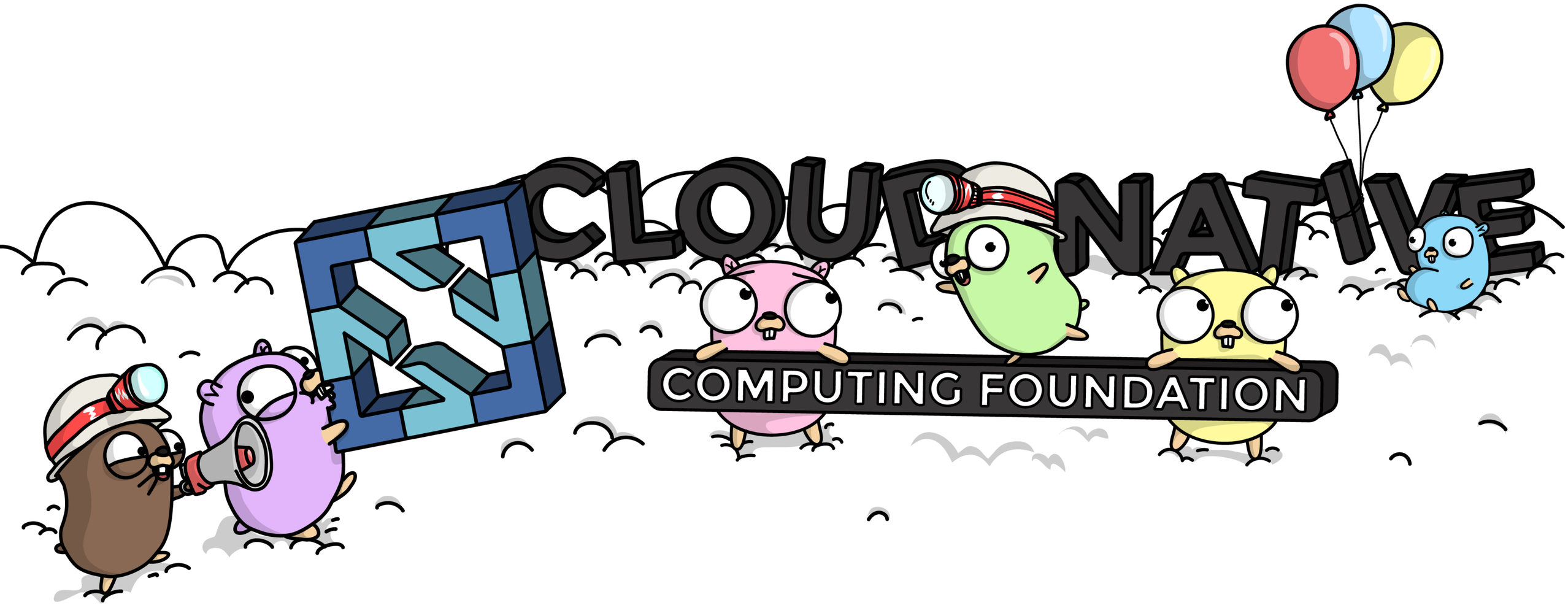


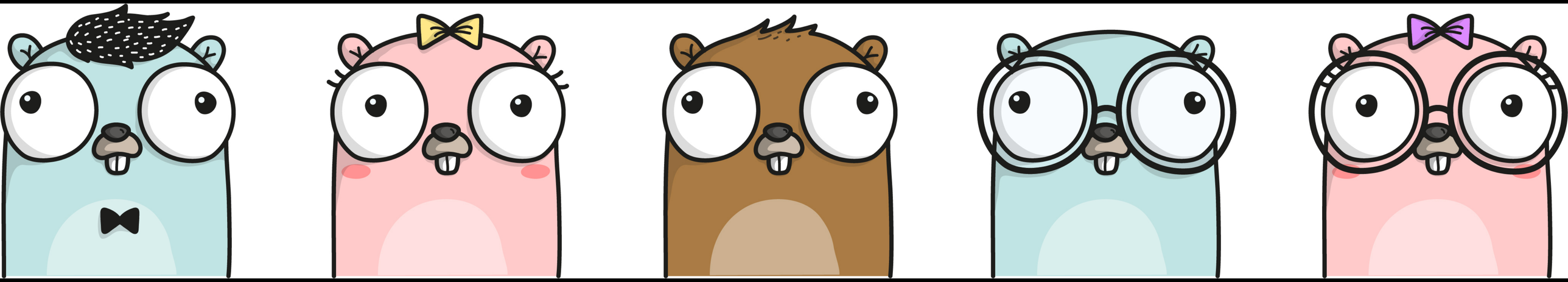


GO

CLOUD NATIVE
COMPUTING FOUNDATION

CLOUD NATIVE
COMPUTING FOUNDATION


CLOUD NATIVE
COMPUTING FOUNDATION



Companies Using Go

DigitalOcean
mongoDB
NETFLIX
bitly
CLOUDFLARE
circleci
heptio
Microsoft
NATIVE INSTRUMENTS
SOUNDCLOUD
Alibaba.com
Travis CI
CoreOS
SPACEX
Booking.com
zalando
Delivery Hero
DATADOG
Dropbox
AEROSPIKE
SIXT rent a car
intel
ebay
Google
BuzzFeed
Walmart
Medium

github.com/golang/go/wiki

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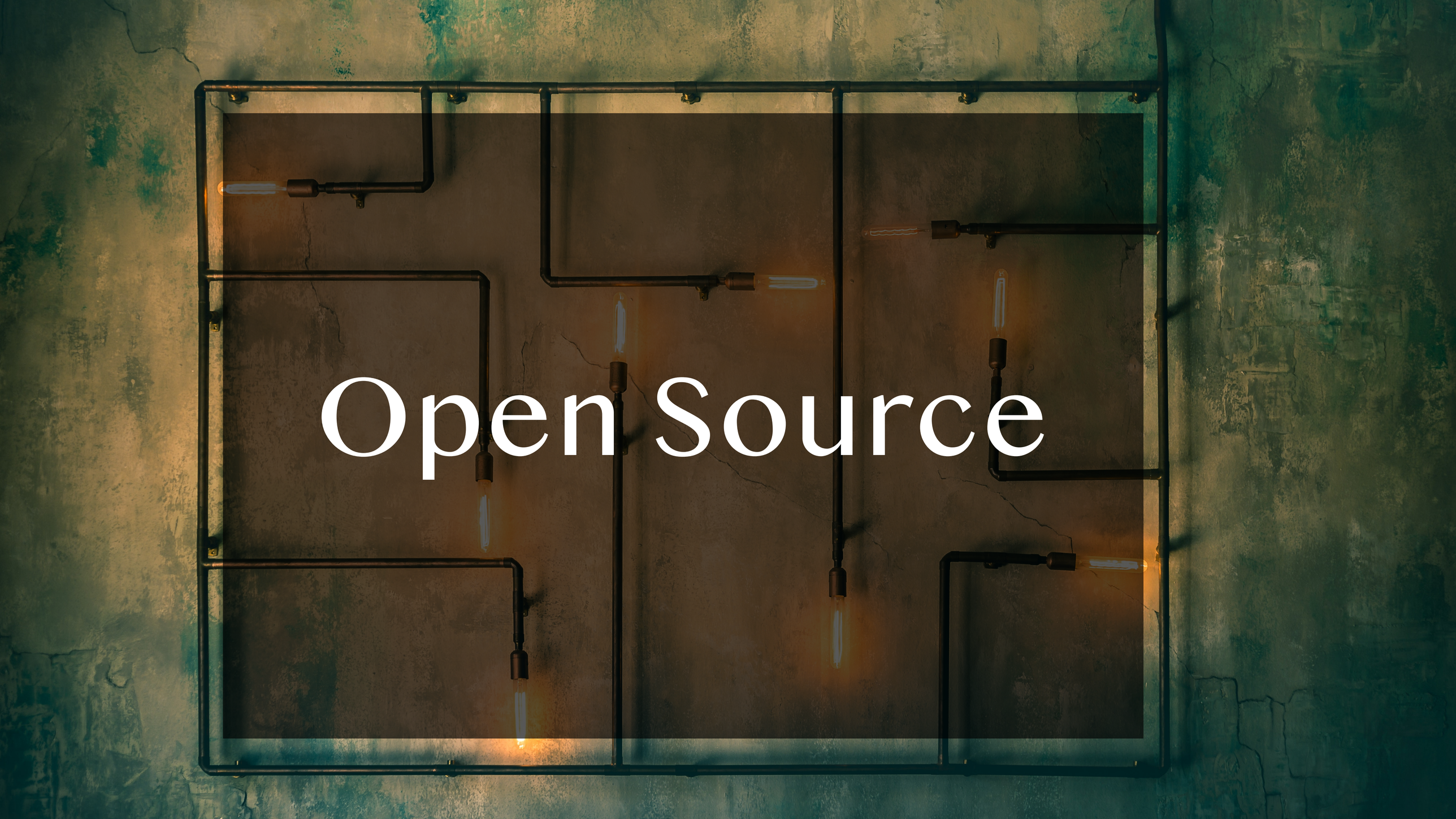
Go Benefits for SRE

Go Benefits for SRE

Simple
Reliable
Efficient

Simple
Reliable
Efficient


Open Source

Fast Compilation and Execution

Fast Compilation and Execution

Fast Compilation and Execution

Import-Defined Dependencies

One Binary to Rule Them All

Cross Compilation

Cross Compilation

$GOOS	$GOARCH	
darwin	386	-- 32 bit MacOSX
darwin	amd64	-- 64 bit MacOSX
linux	386	-- 32 bit Linux
linux	amd64	-- 64 bit Linux
linux	arm	-- RISC Linux
windows	386	-- 32 bit Windows
windows	amd64	-- 64 bit Windows

And there's more…

Cross Compilation

Cross Compilation

Garbage Collection

Garbage Collection

Garbage Collection

Garbage Collection

Garbage Collection

Garbage Collection

Garbage Collection

Readability

Testing

Benchmarking

Profiling

stdlib

- fmt
- io/ioutil
- net/http
- os/exec
- path/filepath
- regexp
- strings
- text/tabwriter
- time

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- io/ioutil
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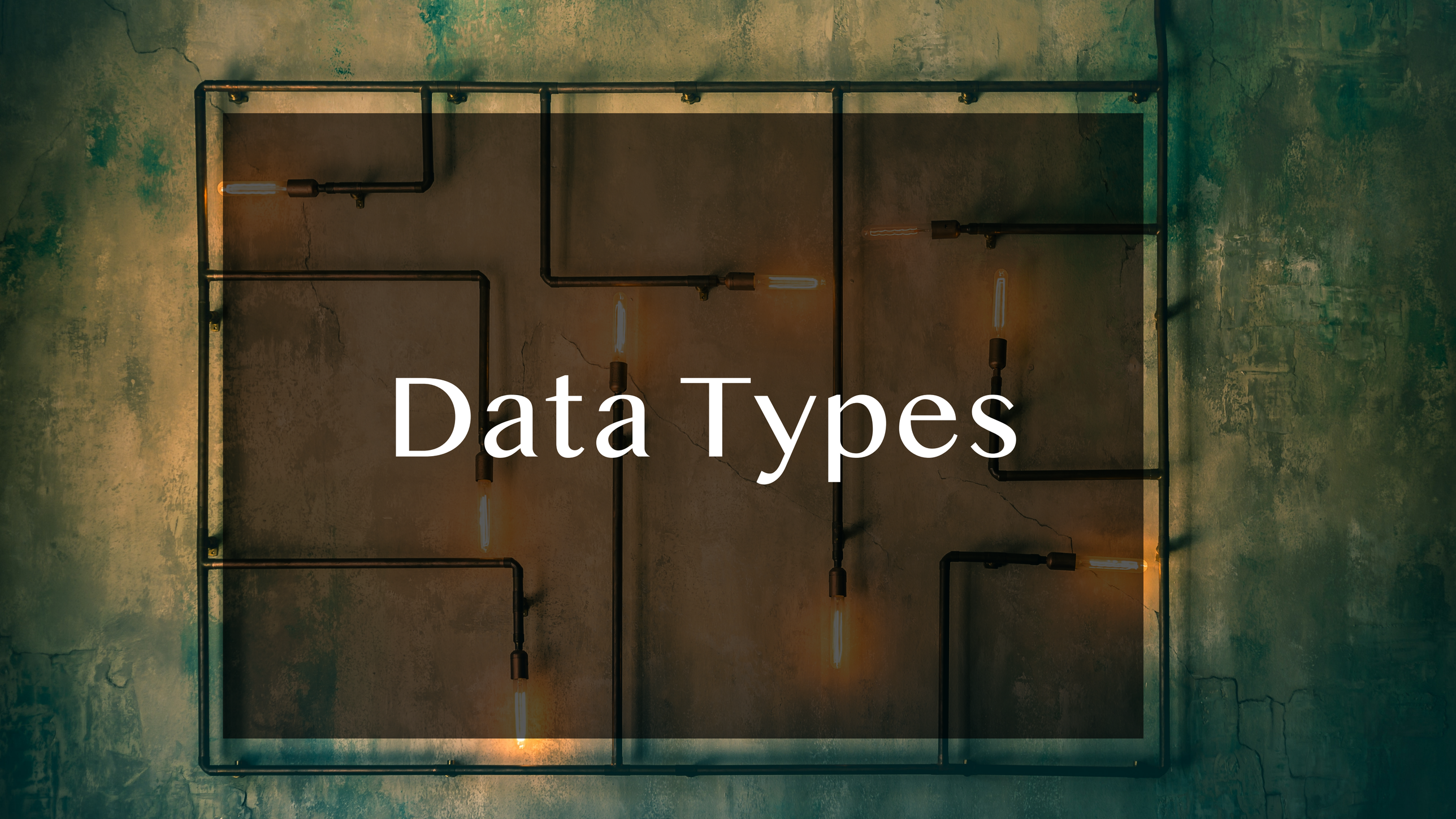
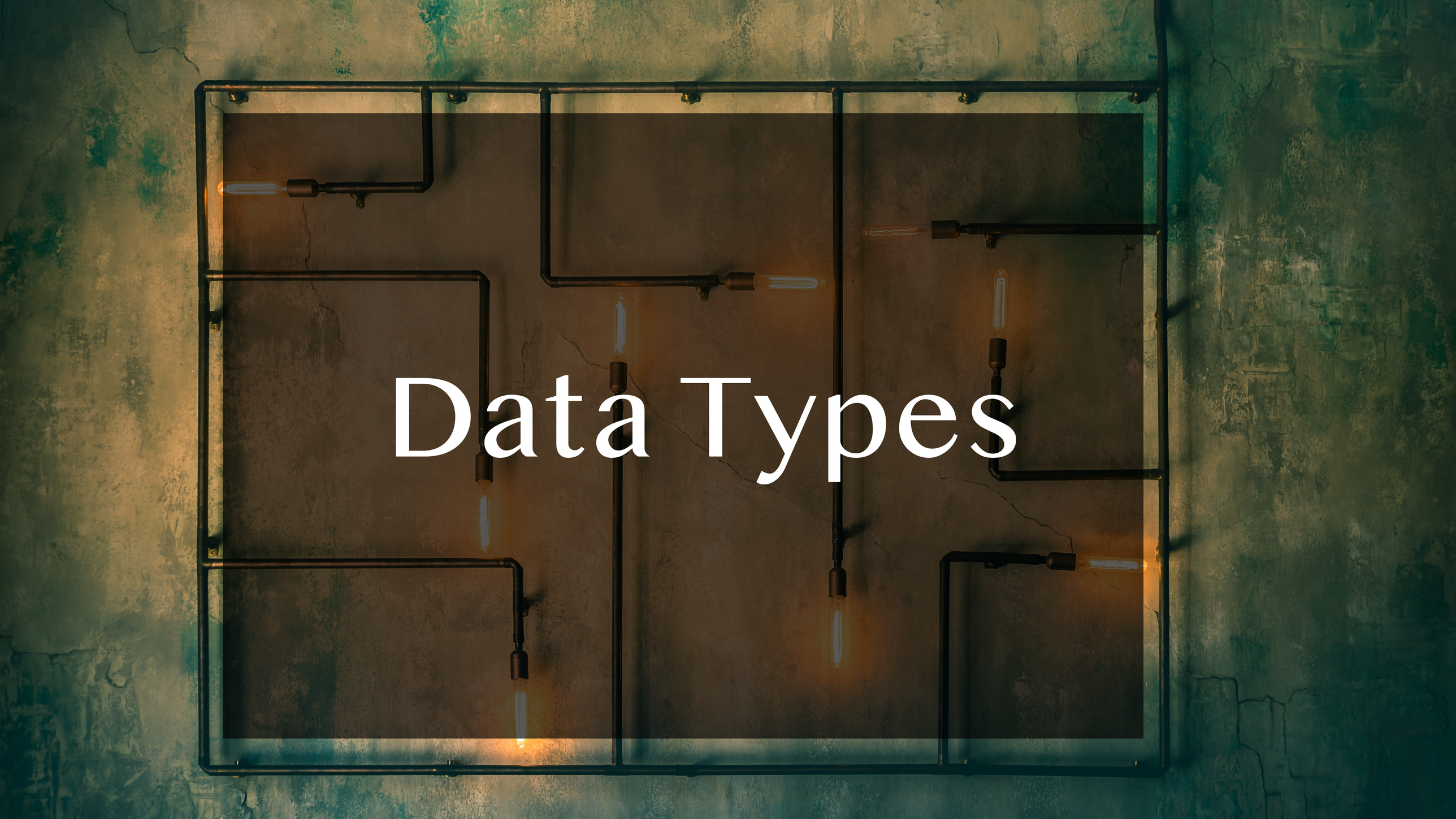
Error Handling



Data Types



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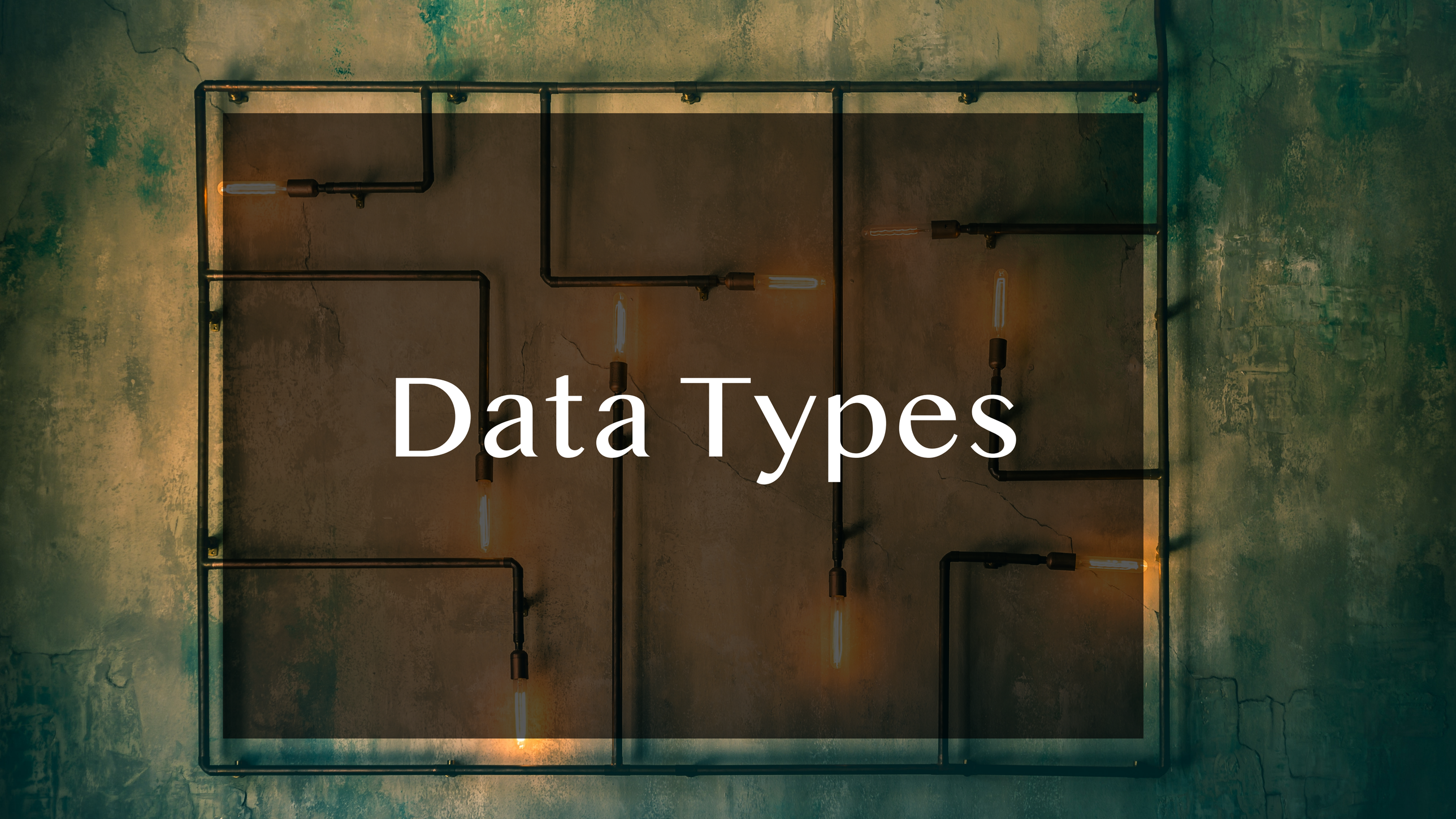

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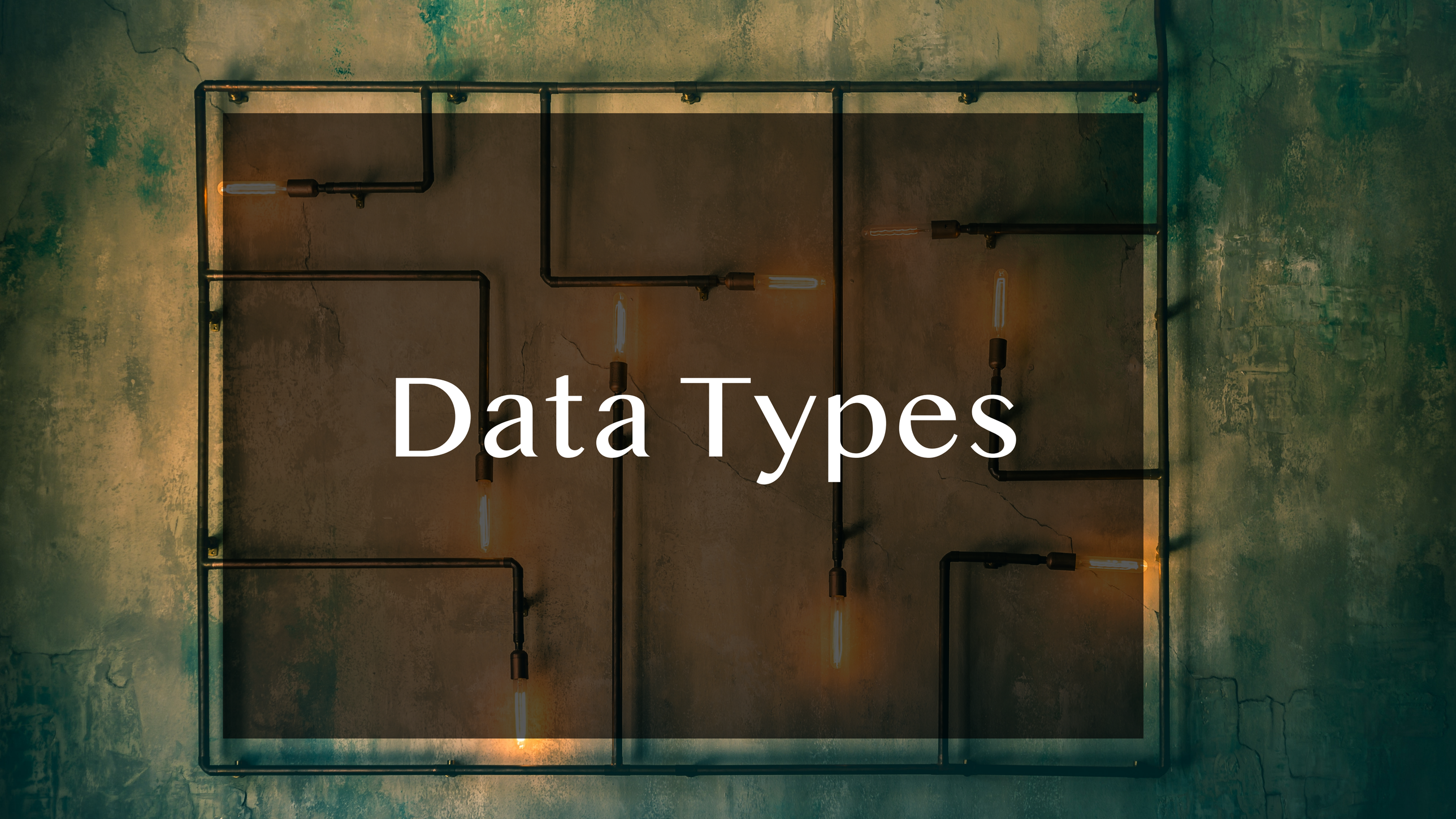
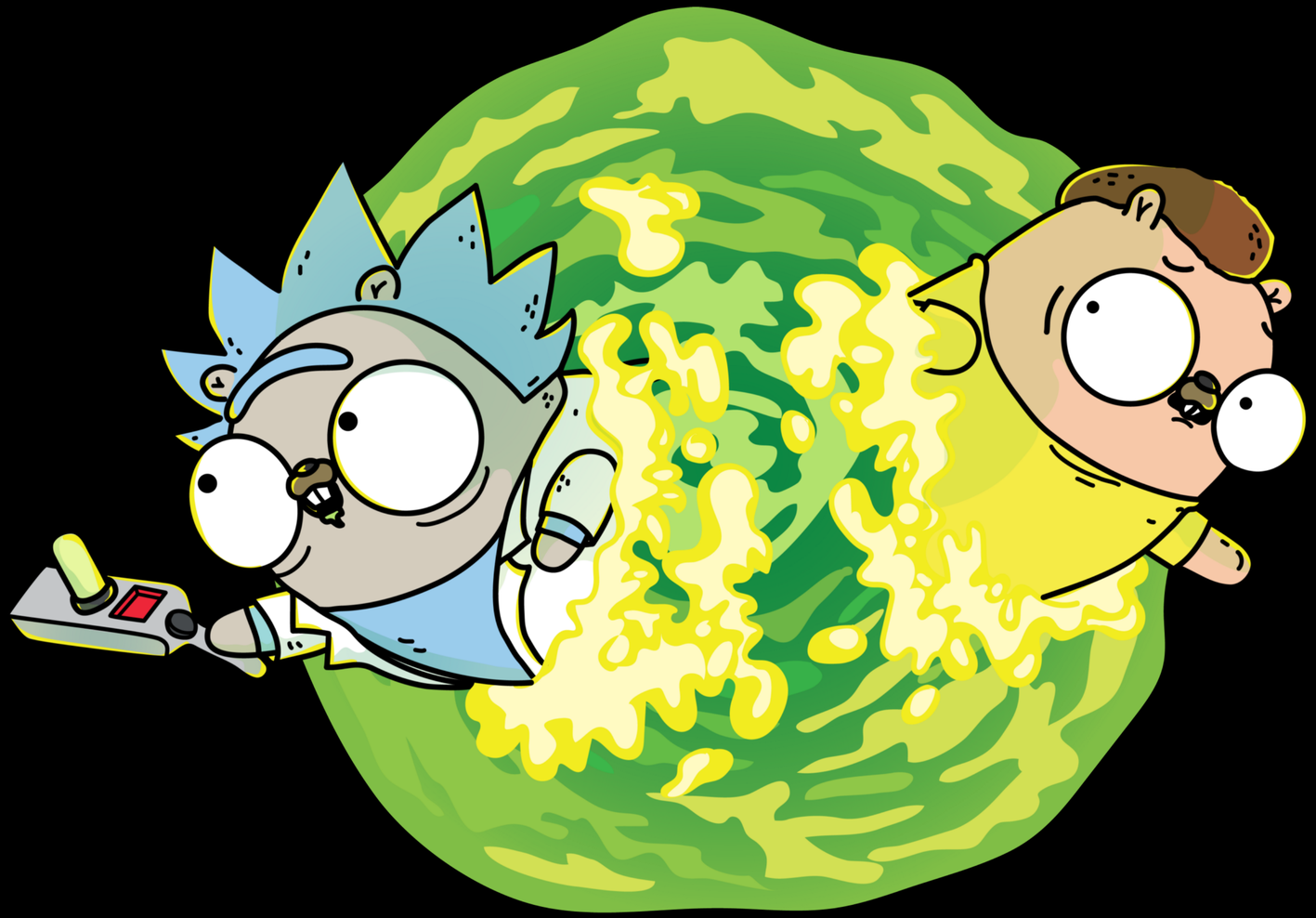


Data Types

Pointers Exist, Pointer Arithmetic Doesn’t

Composition,
Not Inheritance



Go in the Future

Go 2.0

Go २.०

Go २.०

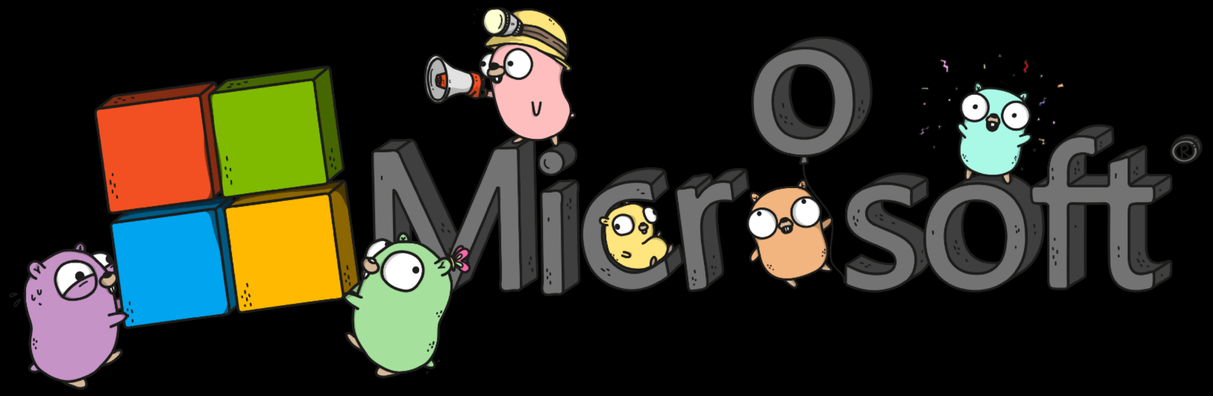
The Go community **doubled** in the last year

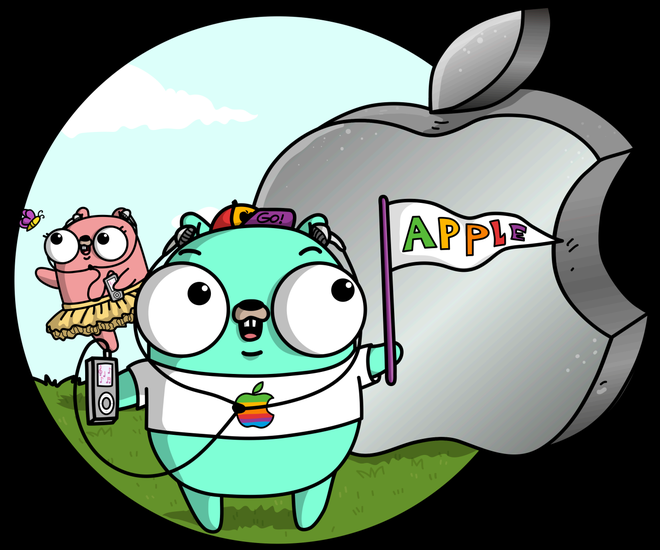
There are approx.
1.5 Million active
Go users

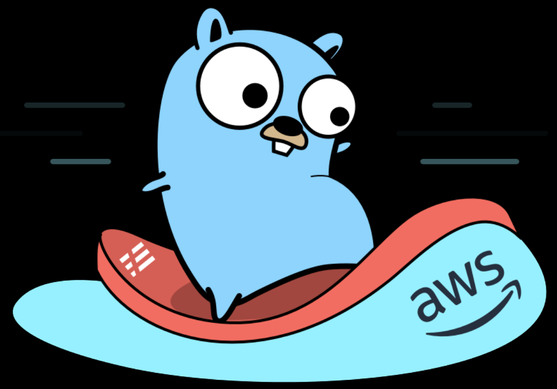
New Go users in 2017

=

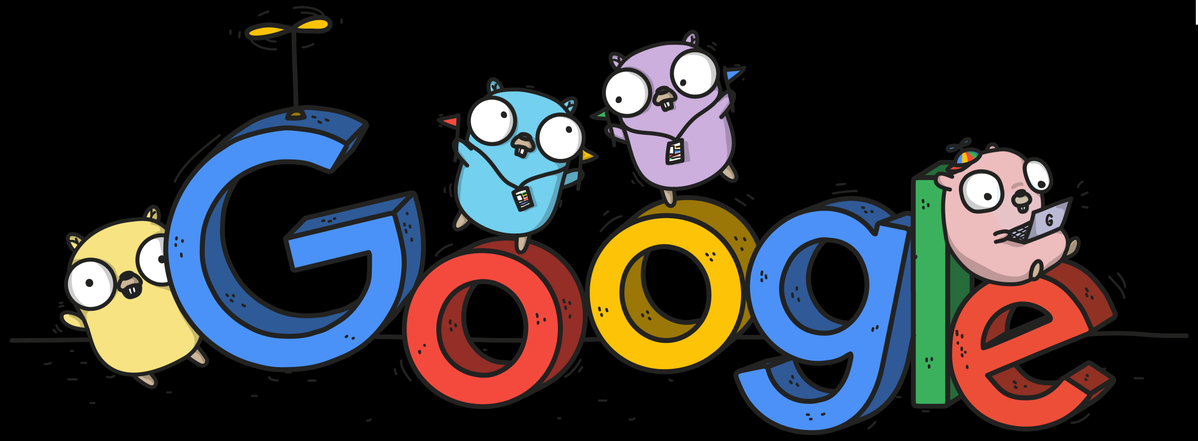
New Go users in the last 9 years

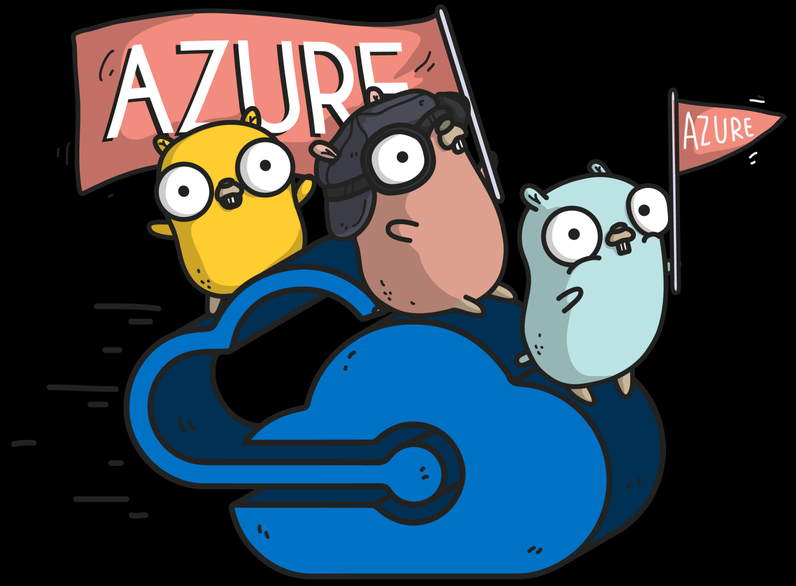


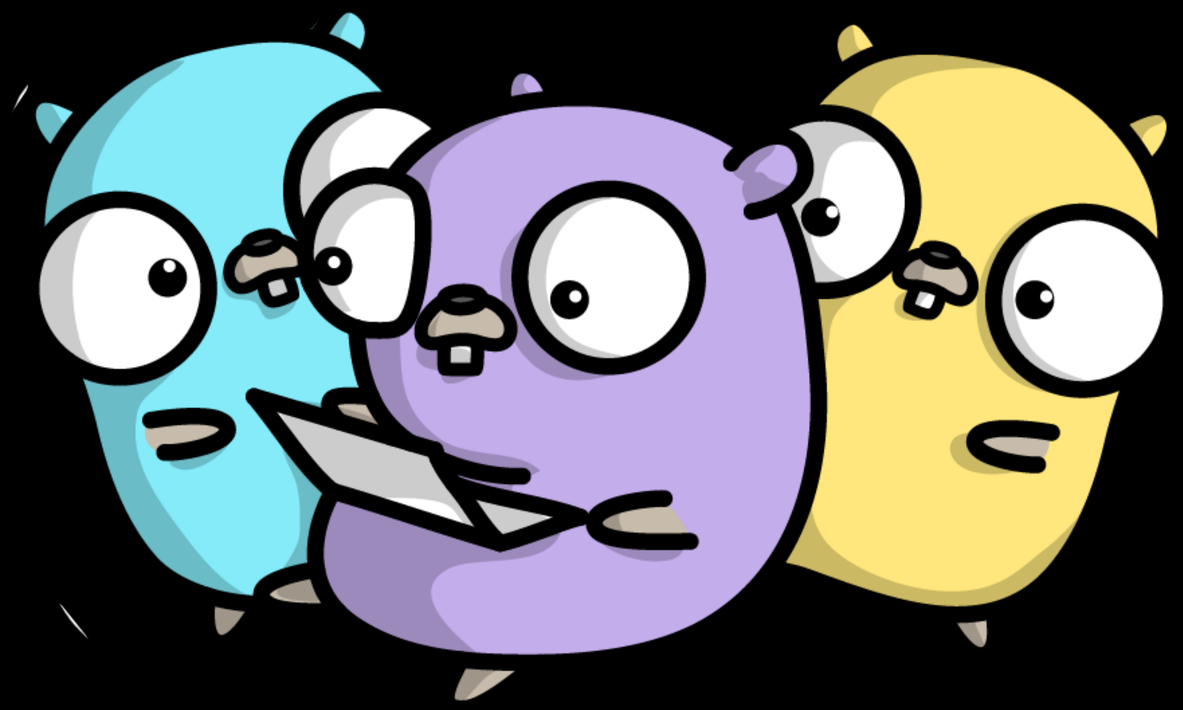




Corporate Adoption







New Users!

Go Resources

invite.slack.golangbridge.org

github.com/golang/go/wiki

play.golang.org

golang.org/blog

twitter.com/golang (also: #golang)

Thank You!

@nataliepis