



THE ASPEN GROUP

# The Superpowers & Kryptonite Brought by Next.JS

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LEAD SOFTWARE ENGINEER @ THE ASPEN GROUP

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8/28/2024

# Agenda

- A Bit About Me & The Aspen Group (TAG)
- The Superpowers
- The Kryptonite
- Key Takeaways

# Survey: Next.JS

# A Bit About Me

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- Software Engineer in Athletic Development, Grocery Industry and Healthcare in last 14 years
- GitHub: <https://github.com/soleo>
- LinkedIn:  
<https://www.linkedin.com/in/xinjiangshao/>



# The Aspen Group



**AspenDental**  
Smile. We're in your corner.

**ClearChoice**  
DENTAL IMPLANT CENTERS

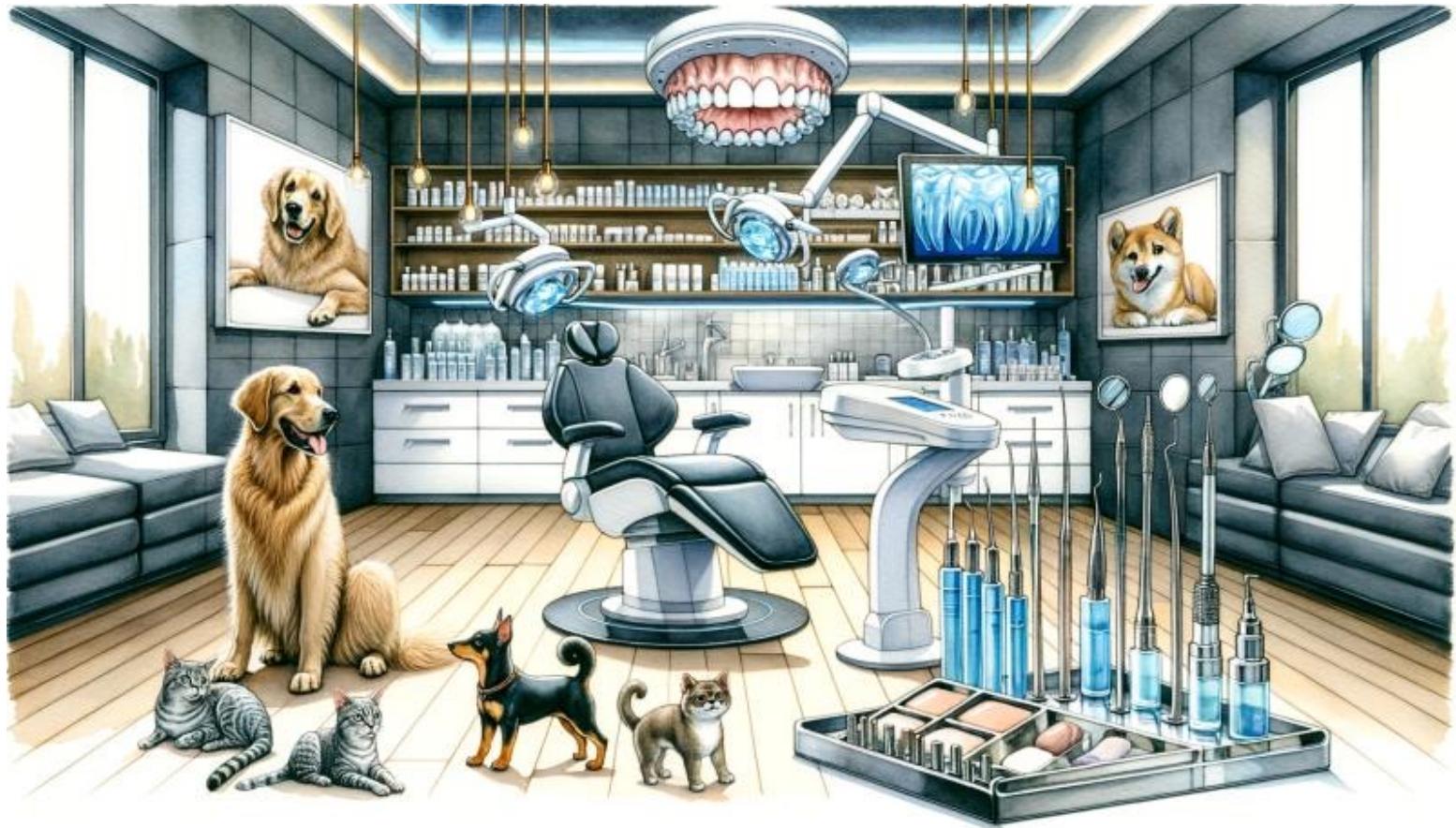
**Lovet**<sup>SM</sup>  
Pet Health Care

 **AZPetVet**  
A Family of Animal Hospitals

**physicians**  
urgent care

Now part of  
 **wellnow**  
Urgent Care

**chapter**<sup>SM</sup>  
AESTHETIC STUDIO



# Common Needs

- **Content Management (CMS)**
- **Book Appointment**
- **Brick and Mortar Offices**

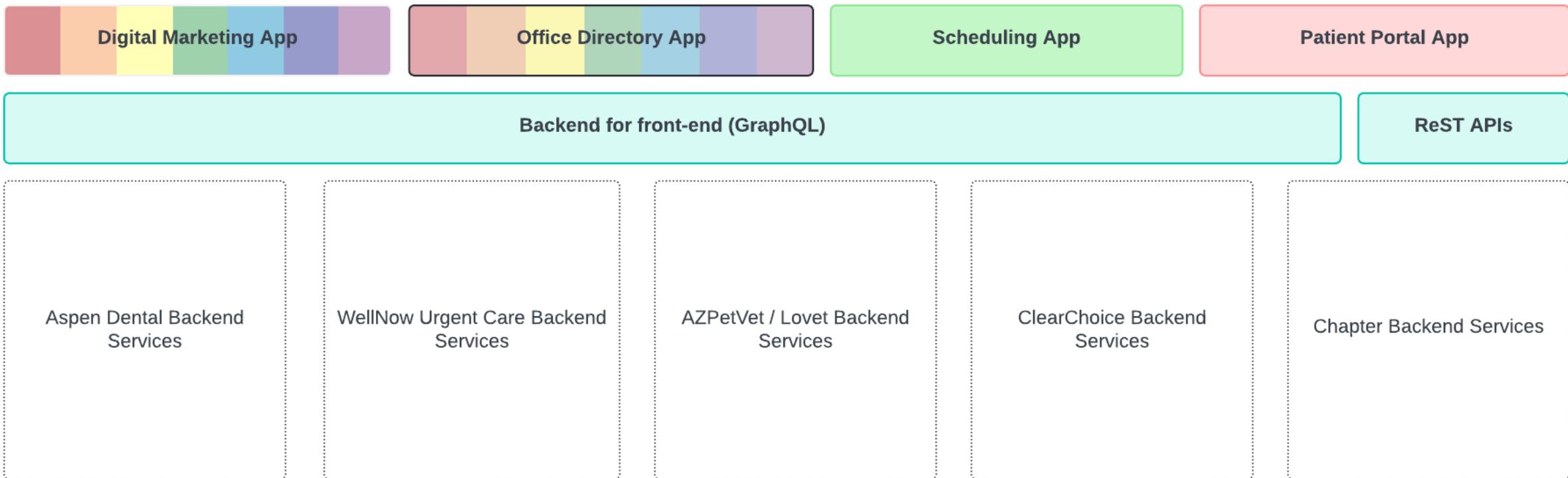
# They are also very different

- Customers
- Regulations
- Technology

# The Superpowers Brought By Next.JS



# Digital Commerce Platform



# Digital Marketing / Office Directory

MULTI-TENANT

**wellnow** urgent care **physicians** immediate care **Aurora, IL**

Services Resources Schedule

## Get Better, Faster

Reserve a time online, walk in today or access virtual care 24/7 – it's healthcare on your terms.

Schedule Visit Start Virtual Visit

Care Well



Illnesses > Injuries > Symptoms >

Why Choose WellNow?

Our 150+ clinics are ready to offer you the best, personalized care possible.

- Walk-ins always welcome, no appointment required
- Open 7 days a week with extended hours — including holidays
- Low wait times with appointment updates sent to your phone
- 24/7 virtual care anytime, anywhere
- Schedule online, check in online, wait where you're comfortable
- We work with all insurance plans and have a flat rate for uninsured

Get the services you need on your schedule.

Schedule appointment (888) 986-3927

**AZPetVet** Family Pet Health Experts

Locations Services Why AZPetVet The Experience Resources Careers

Search by ZIP Code

Schedule Appointment

## A unique breed of exceptional veterinary care



What Sets Us Apart

Flexible Payment Options

22 Locations and Growing

We have 22 locations in the Phoenix metro area with plans to expand. Look for a hospital near you.

PetVet Services

routine wellness exams and vaccinations, sick and urgent needs, dental care, and surgical care.

**aspendental** Chicago, IL

DENTURES DENTAL IMPLANTS CLEAR ALIGNERS GENERAL DENTAL SERVICES COSTS & AFFORDABILITY DENTAL FINANCING & INSURANCE

Schedule appointment

## Top-rated dental care near you

Get the services you need on your schedule.

Schedule appointment (888) 986-3927

Explore pricing & offers

View all offers

Explore the Aspen Dental Savings Plan

AFFORDING DENTURES

Dentures cost

How we make dentures affordable

AFFORDING DENTAL IMPLANTS

Dental implant costs

How we make dental implants affordable

General dental service costs

New teeth straighteners cost

“I cannot stress how easy and comforting the staff were.”  
F. from Palm Desert, CA

Dental services we offer



Dental implants Custom dentures Teeth straightening Emergency care Chat with us

**ClearChoice** DENTAL IMPLANT CENTERS

Schedule Now

AFFORDING DENTAL IMPLANTS

RESOURCES



dentally

Clear Choice Dental Implant Centers®

Understand Implants Learn About ClearChoice® Hear From Patients Compare with Dentures ExploreCosts Find YourLocation

# Booking Appointment

SINGLE-TENANT

www.wstg.azpetvet.com


**AZPetVet**  
 A Family of Animal Hospitals
**1 Client Information**
**2 Pet Information**
**3 Reason for Visit**
**4 Pet Health Information**
**5 Date & Time**
**6 Appointment Review**
**7 Confirmation**

www.aspendental.com

### AspenDental

ACCOUNT & BILLING


**1 Patient Information**

APPOINTMENT ASSISTANT

### Patient Information

First Name\*  Last Name\*   
 Date of Birth\*

**Let us get to know you**

Provide more information on your current dental health to help us schedule your appointment.

**What is your current dental condition? Please select all that apply. \***

Missing teeth  
 Cracked, loose, or failing teeth  
 Bleeding/swollen gums  
 Can't eat what I want  
 Tooth pain  
 None of the above

**What would you like to improve about your smile? Please select all that apply. \***

Repair damaged teeth  
 Replace missing teeth  
 Gum health  
 Bite position  
 Color of teeth  
 Shape of teeth  
 Position of teeth (Crooked teeth/Crowding or spacing of teeth)  
 Other

**Continue**

SUPERPOWER I

# Server-Side Rendering (SSR) is Very Powerful

SUPERPOWER II

# Feature Toggle is Your Friend

SUPERPOWER III

# Lots of GraphQL, Sprinkled with ReST API

# The Kryptonite Brought By Next.JS



CHALLENGE I

**It's not that easy to  
observe your requests  
when you cannot see  
them in Browsers**

aspendental.com

AspenDental Surprise, AZ Top rated dental care near you Get the services you need on your schedule. Schedule appointment (888) 519-9248

“ I will co . . .



★

Dental services we offer

Elements Console Network > 26 ▲ 134 □ 126

Filter Invert Hide data URLs Hide extension URLs All Fetch/XHR Doc CSS JS Font Img Media Manifest WS Wasm Other Blocked response cookies Blocked requests 3rd-party requests

Name Headers Payload Preview >

j.php?a=613301&u=https%3A%2F%... engage?event=eyJhY3RpB24iOJb2... tag-d5b3d3dd3eefa27c905d038134... 0b7505fb-cec1-41aa-9b91-477ce85... collect?v=2&tid=G-QWGCf6ZDSQ&... bugsnag-sessions.aspendental.com collect.analyze.ly collect.analyze.ly collect.analyze.ly 20979 graphql/ bugsnag-notify.aspendental.com en.json otFloatingRoundedCorner.json otPcCenter.json otCookieSettingsButton.json otCommonStyles.css \_ot\_guard\_logo.svg collect.analyze.ly collect.analyze.ly collect.analyze.ly graphql/ worker-70faaffa0475802f5ee03ca5... collect.analyze.ly collect.analyze.ly collect.analyze.ly collect.analyze.ly Targeting.php?Q\_ZoneID=ZN\_8Af2S... collect.analyze.ly collect.analyze.ly

Request Payload view source {,--> operationName: "facilityByCode" query: "query facilityByCode(\$code: String!, variables: {code: "3330", brand: "ASPEN\_DENTAL"} ) { facility { id name address { street1 street2 city state zip } phone number email website } }" }

Home > Explore > tag-tempo | tag-tempo

Query type Search TraceQL Service Graph Import trace

Service Name: web-officedirectory

Span Name: Select value

Status: Select value

Duration: span < 100ms

Tags: span

(resource.service.name="web-officedirectory" & duration>10ms)

Options: Limit: 20 Spans Limit: 3 Table Format: Traces

+ Add query Query history Query inspector

Table - Traces

Trace ID	Start time	Service
24ce36cf81df20b741...	2024-08-27 21:24:04	web-officedirect...
bb08acf6a7e9a77924...	2024-08-27 21:20:36	web-officedirect...
c9f96b56851463114660...	2024-08-27 21:05:36	web-officedirect...
708a9c7936232e7b31...	2024-08-27 21:02:57	web-officedirect...
28595d36783f64c00e...	2024-08-27 21:01:12	web-officedirect...
61955c620103ffea50...	2024-08-27 20:53:46	web-officedirect...
7119f2bdc539ec182c01...	2024-08-27 20:52:01	web-officedirect...
d207bd8dbde4affa521...	2024-08-27 20:50:15	web-officedirect...
77efaf72d3b159c879c8...	2024-08-27 20:48:49	web-officedirect...
bbafa6a34aa5417b5...	2024-08-27 20:45:03	web-officedirect...
450f273f6440fb96e0...	2024-08-27 20:43:22	web-officedirect...
353a63e687a9617a5f1...	2024-08-27 20:43:22	web-officedirect...
1b98ea0bbd7222d573...	2024-08-27 20:43:16	web-officedirect...
fffc8b904f4bc8d6cfbe6...	2024-08-27 20:42:38	web-officedirect...

GET (7.72ms) tls.connect (60.25ms) tcp.connect (20.09ms) GET (72.72ms) dns.lookup (18.5ms) dns.lookup (19.9ms) tls.connect (56.55ms) tcp.connect (19.69ms) POST (548.74ms)

POST Service: web-officedirectory Duration: 548.74ms Start Time: 97ms (21:24:04.275) Kind: client Status: unset Library Name: @opentelemetry/instrumentation-undici Library Version: 0.4.0

Span Attributes: http.request.method = POST | http.request.method\_original = POST | http.response.header... Resource Attributes: APP\_BRANCH = main APP\_COMMIT = 6d3f3fa28676a40f1205e4878c85b5cb99dab6... SpanID: 007e7e561da3595

dns.lookup (12.8ms) 18.73ms 13.56ms 98.65ms | web-officedirectory:GET 131.35ms 14.57ms 792.01ms

POST Service: web-officedirectory Duration: 792.01ms Start Time: 901ms (21:24:05.079) Kind: client Status: unset Library Name: @opentelemetry/instrumentation-undici Library Version: 0.4.0

Span Attributes: http.request.method = POST | http.request.method\_original = POST | http.response.header... Resource Attributes: APP\_BRANCH = main APP\_COMMIT = 6d3f3fa28676a40f1205e4878c85b5cb99dab6... SpanID: 063fd99f0f3fa7

GET (13.94ms) 17.7ms 42.79ms 33.1ms 10.46ms 9.49ms 52.75ms

tls.connect (33.11ms) tcp.connect (10.46ms) dns.lookup (9.49ms) GET (2.25ms)

The Aspen Group

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## CHALLENGE II

You need to turn on  
some experimental  
features after all

```
module.exports = {
  experimental: {
    instrumentationHook: true,
  },
}
```

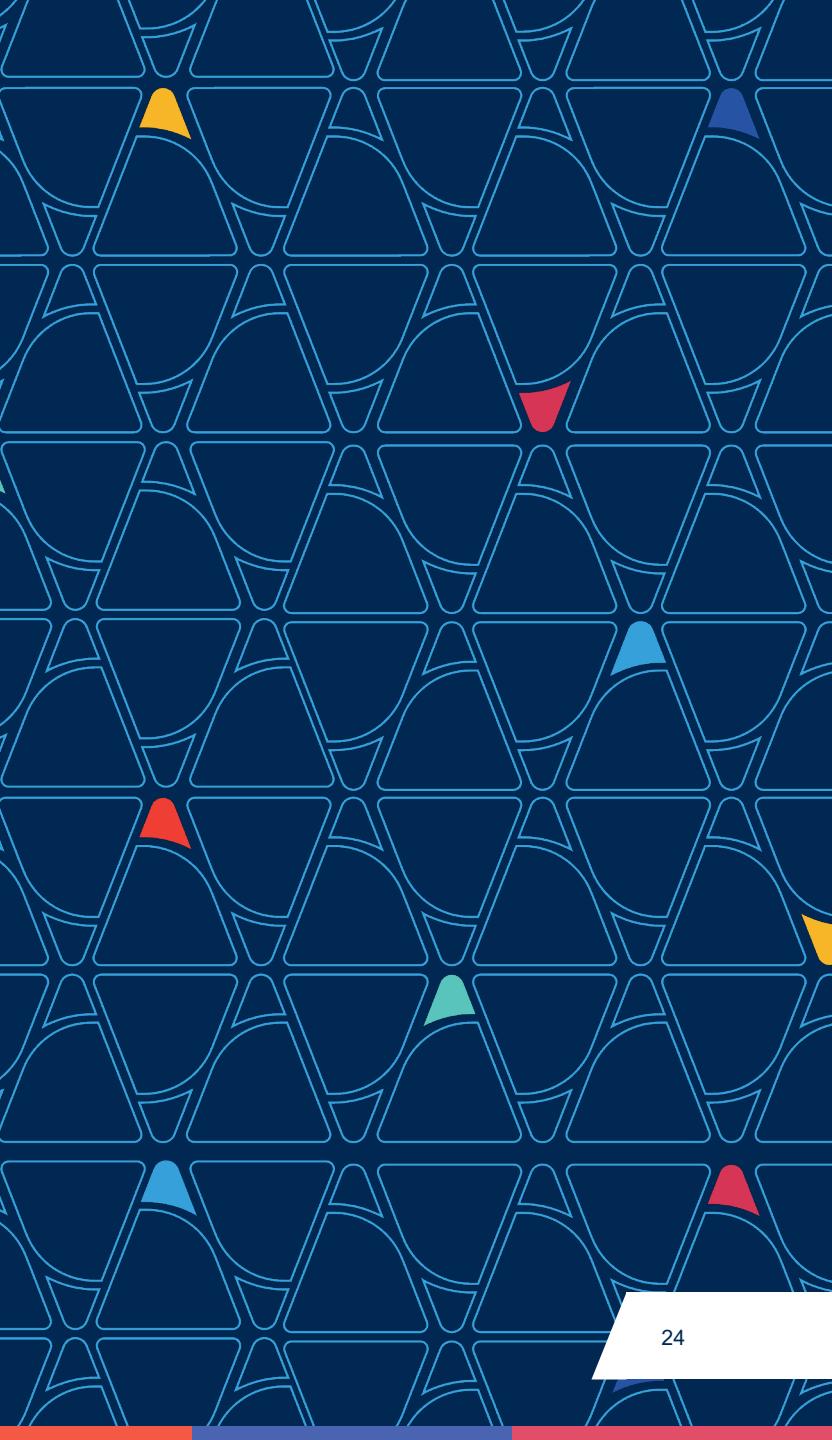
CHALLENGE III

# Server-side Memory Leak is No Joke



# Key Takeaways

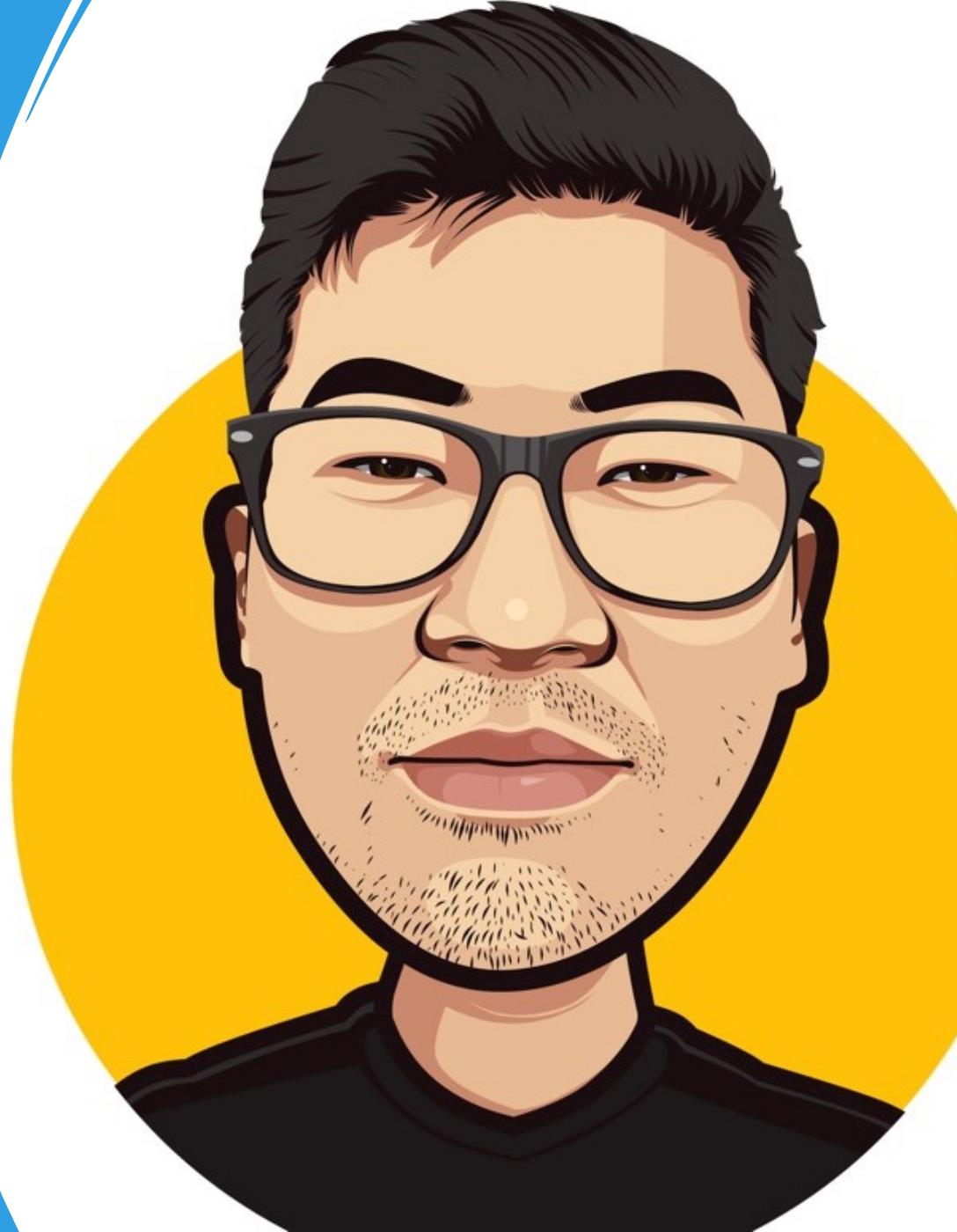
- Treat your application as a full stack app if opt-in SSR
- OpenTelemetry is a must-have
- Use feature toggle & GraphQL often



# We're hiring as well



# Questions?



# About Me

- Software engineer by day, aspiring chef by night. Fueled by a passion for design and cooking, Xinjiang Shao creates and designs both code and cuisine.
- GitHub: <https://github.com/soleo>
- LinkedIn:  
<https://www.linkedin.com/in/xinjiangshao/>

