

# TEAM 8

Farhan, Rong Quan, Yuan Qi

# CHALLENGE 1

- Challenge: Build APIs to compute key risk metrics in real time
- Our solution:
- FastAPI service + Postgres-backed portfolio price cache





# SPEED OF API CALLS

- APIs must be accurate and fast
- Bottleneck: Large Postgres queries on every request
- Solution: Pre-build in-memory cache of portfolio prices at startup
- Result: Basically instant response times for metrics queries

# ROBUSTNESS

- Comprehensive error handling (invalid dates, missing prices, zero base price)
- Modular compute functions → reusable for future metrics
- Extensible foundation for Challenge 2 (persona-specific AI tools)



# CHALLENGE 2

# PERSONA FOCUS



## COMPLIANCE ANALYST - SHERYL

Ensures portfolios adhere to investment guidelines and avoid regulatory breaches



## PORTFOLIO MANAGER - CHENG YI

Optimise returns while minimising risks

**Hand-in-Hand:** compliance alerts directly impact portfolio manager decisions

# PAINPOINTS



## COMPLIANCE ANALYST - SHERYL

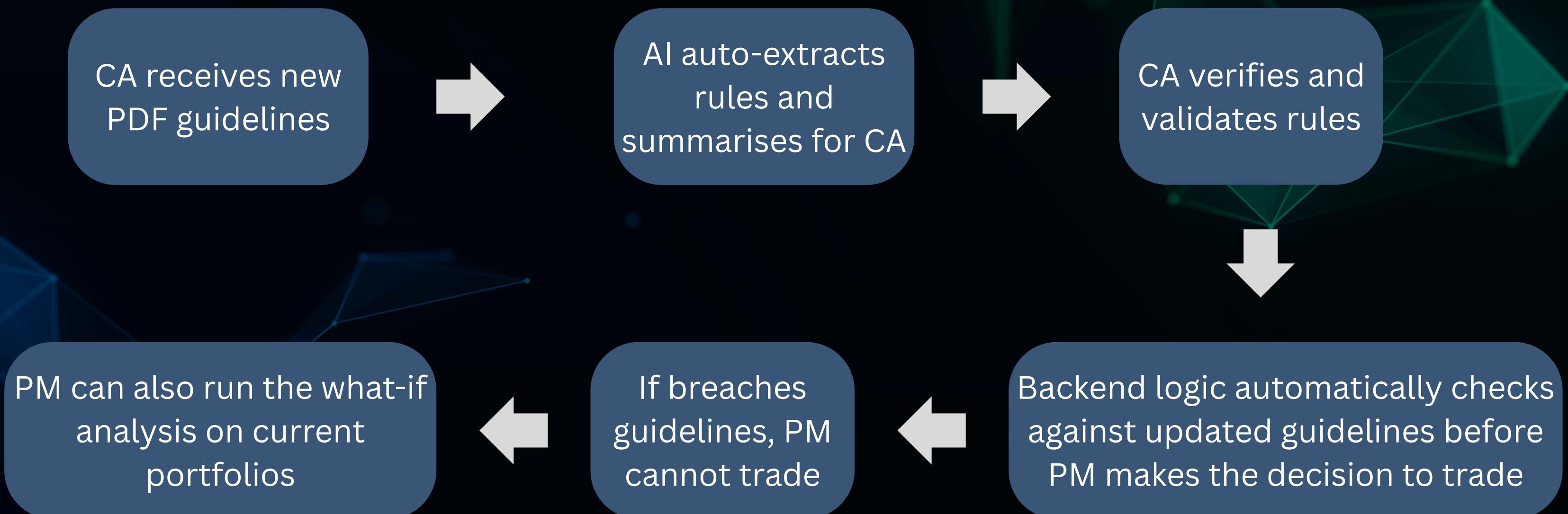
- Frequent updates on investment guidelines in long dense pdf
- Manually extract rules and translate into monitoring processes
- Process is slow and error prone
- Firm open to compliance exposure



## PORTFOLIO MANAGER - CHENG YI

- Trade executed before being informed by CA of new compliance rules
- Predict different scenarios under different market conditions

# USER STORY



# COMPLIANCE ANALYST

## How it Helps?

### Responsibilities supported:

- Translate guidelines into rules
- Monitor breaches, track resolution

### Pain points solved:

- PDF rules auto-extracted by OpenAI → faster turnaround
- Automated breach alerts → fewer manual checks
- Workflow tracking for resolution → better accountability

Faster compliance cycle, reduced operational risk

# PORTFOLIO MANAGER

## How it Helps?

### Responsibilities supported:

- Maximize returns, reduce risks
- Conduct risk analysis & “what-if” simulations

### Pain points solved:

- Breach alerts received before trade execution → fewer compliance issues
- Advanced simulations with compliance constraints baked in
- Real-time data integration → faster, more accurate decision making

Faster compliance cycle, reduced operational risk

# OPS AGENT

- Ops Agent is an automated SRE helper that inspects telemetry, runs checks, and suggests/remediates issues.
- FastAPI emits telemetry → Next.js ingests it → agent runs server-side inside Next.js.
- Agent tools, actions + reasoning streamed live via SSE!
- Turns raw logs into real-time diagnosis + traceable actions—perfect for a fast PoC demo.

# LIVE DEMO

# THANK YOU!

FOR YOUR ATTENTION