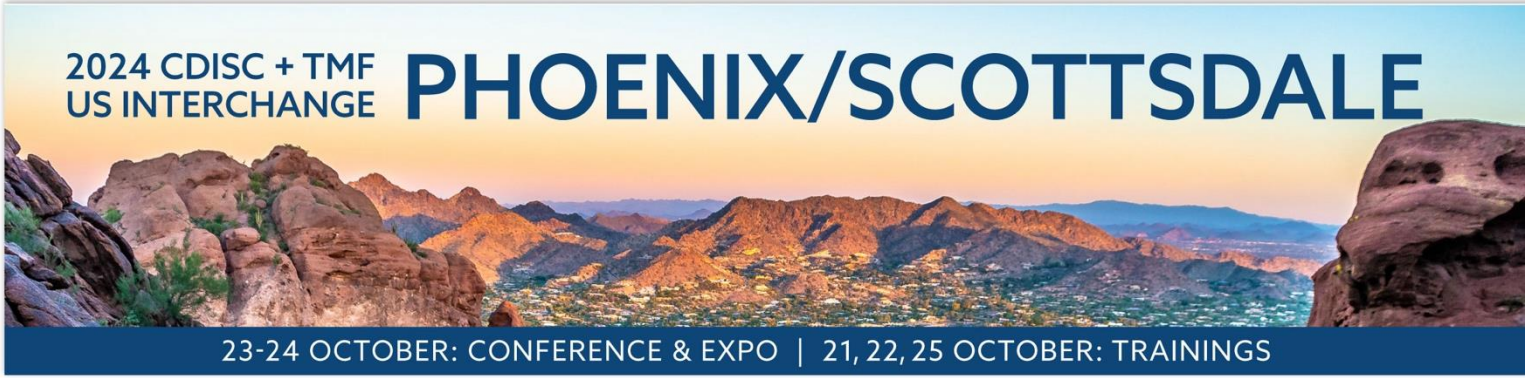


Admiral: An Open-Source R Package for Creating ADaM Datasets

Presented by Zelos Zhu, Data Solutions Engineer, Atorus Research

Meet the Speaker

Zelos Zhu

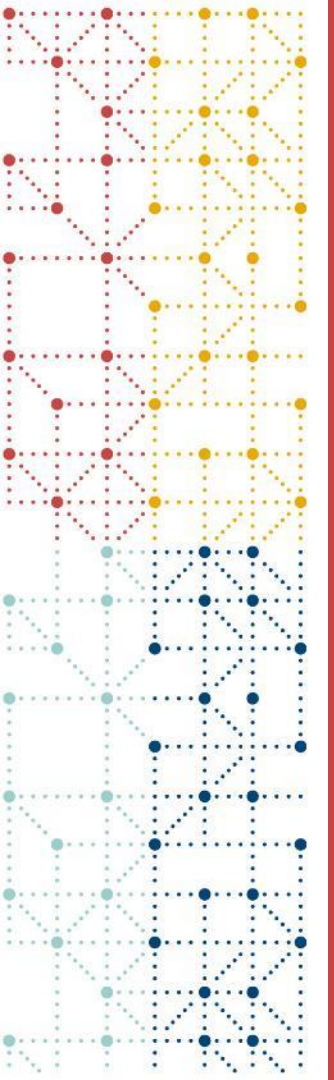
Title: Senior Data Solutions Engineer

Organization: Atorus Research

I'm Zelos Zhu, a Data Solutions Engineer at Atorus Research, where I have the privilege of serving as a core developer for the R-Package, Admiral. When I'm not delving into the intricacies of data, you'll often find me pursuing my passions such as: cooking up delicious meals, embarking on breathtaking hikes, or working my way to 100 on a golf course.

Disclaimer and Disclosures

- *The views and opinions expressed in this presentation are those of the author(s) and do not necessarily reflect the official policy or position of CDISC.*
- *The author has no real or apparent conflicts of interest to report*



Agenda

1. What is Admiral?
2. Why use Admiral?
3. Admiral Core Values
4. Future of Admiral

What is Admiral?

What is admiral about?

Admiral is an **open source modularized toolbox** that **enables companies and communities** to develop ADaM datasets in R.

Think of **admiral as a toolbox of modular** blocks (toolbox of R functions) →

- each block has a **stand alone** purpose (each function provides a specific functionality)
- Data Scientists can create their **own** blocks (create own R functions)

Constructing an ADaM dataset should become like building out of blocks that are based on admiral modular functions and user-created modular functions.

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```
create_advs(
  vs,
  param_01 = ,
  param_02 = ,
  …,
  param_99 =
)
```

```
vs %>%
  derive_var_a() %>%
  derive_var_b() %>%
  derive_param_x() %>%
  ...
```

Why use Admiral?

Why admiral?

Across the pharmaceutical industry we all face the same challenge when it comes to analysis and creating ADaM datasets!

- We all work on our own “standard solutions” for ADaMs
- We all face the challenge of a changing and novel data landscape
- New therapeutic areas and analysis concepts
- Individual “blackbox” solutions instead re-use , co-creation and sharing
- We tend to see siloed and hierarchical approaches as more efficient

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Way to go!

Enable

Collaborate and contribute

Co-create and re-use

What's in for you?

- **As a company:** harmonization and robustness
  - A robust framework for R-based ADaM shared ready-to-use modules
  - Imagine ADaM code becomes more transparent across the industry (QC, readable code, talent flow ..)
- **As a Data Scientist:** contribute to something bigger
  - An option to make a name for yourself in the Pharma open-source community (i.e. an extension of just sharing a paper), and an avenue to collaborate with other like-minded people across the world
  - Share, re-use and inheritance as a community instead of re-inventing the analysis for each study
- **Patients & Society:** concentrate on the right work
  - If we can collectively reduce the burden of ADaM across-industry, imagine the data scientist skills and resources this unleashes towards making more with the insights of our data, and the speed at which we're able to bring treatments to patients

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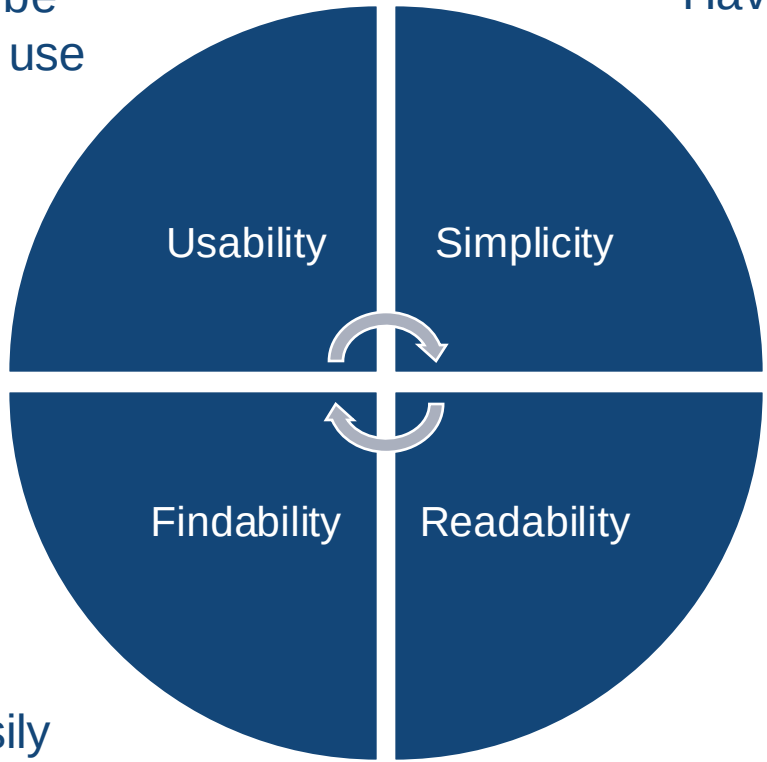
Admiral Core Values

Manifesto: All Admiral Functions

Should be easy to use

Have a clear purpose



Are easily findable

Follow a Programming Strategy

Example Functionality

Derive/Impute Numeric Date/Time and Analysis Day (ADT, ADY, ADTF, …)

derive_vars_dtm
derive_vars_dy

Example Call

```
derive_vars_dy( datain, reference_date = TRTSDTM, source_vars = exprs(TRTSDTM, ASTDTM, AENDT)
)
```

TRTSDTM	ASTDTM	AENDT	TRTSDY	ASTDY	AENDY
<dttm>	<dttm>	<date>	<dbl>	<dbl>	<dbl>
2014-01-17 23:59:59	2014-01-18 13:09:09	2014-01-20	1	2	4

Functions are developed, documented, and unit-tested by admiral core team
Open-source team allows iteration to address user needs over time

[ADaM in R Asset Library • admiral (pharmaverse.github.io)]

Future of Admiral

Release v1.2.0 – Coming Dec 2024

Stable release of {admiral} v.1.0.0 released earlier this year in Jan 2024

Primary focus now is documentation and catering towards a user-friendly experience, such as cheatsheets, new cli messaging, discover page, etc.

Many new extension packages like pediatrics, metabolic are actively being developed

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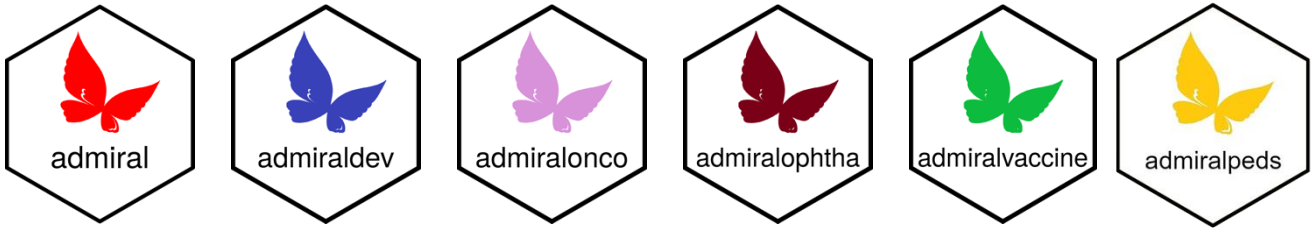
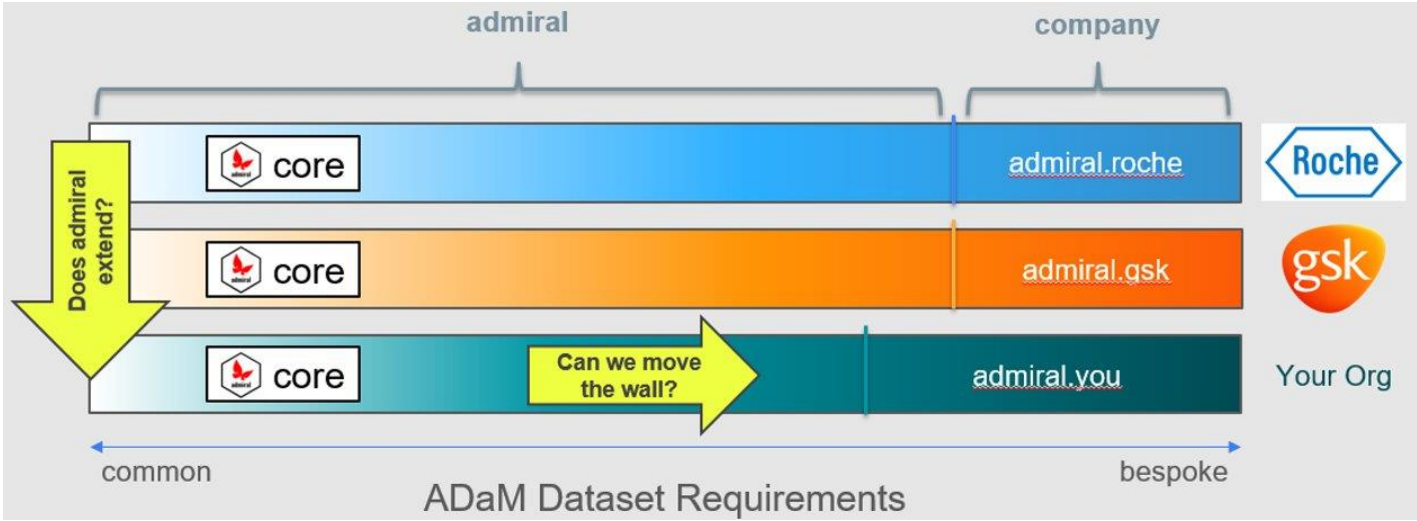
How we see industry collaboration working?





Thank You!