


Eco-Fiksu

The next generation eco-smart park
management system




Motivations

1. Data usually comes in **different formats**
 - Tiresome **preprocessing** when integrating with existing services.
 - **Large overhead** when merging with data of different formats.
- 




Motivations

2. Existing smart parks **operates individually**.
 - Unable to acquire data from other vendors.
 - Often need to implement their own platform which is very **inefficient**.
- 



Motivations

3. **Redundant data** coming from sensors.
 - For IOT platforms, these **dirty** fields of information is often of no use.
 - Non-standardized schemas are often **verbose** and designed poorly.
- 




ML ? Data Vendors?

我全都要



Goal

1. Design a **concise and elaborative** schema for IOT platform data.
 2. Create a **full-stack, production-ready** web boilerplate for eco-smart park and user interface integration.
 3. Design a slick **data visualization, processing and accessing** UI/UX frontend framework.
- 

Schema Design

Keep the vital fields

Device

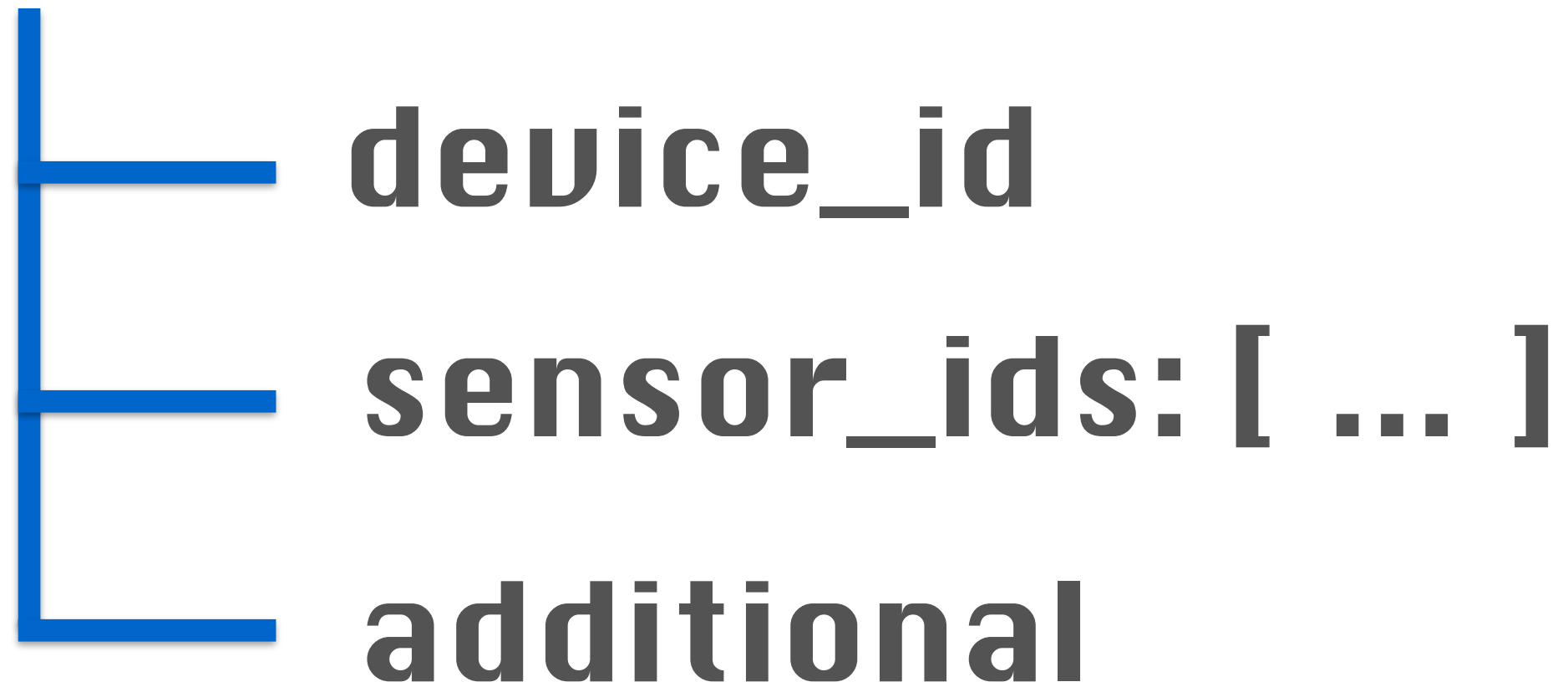
Sensor

Measurements



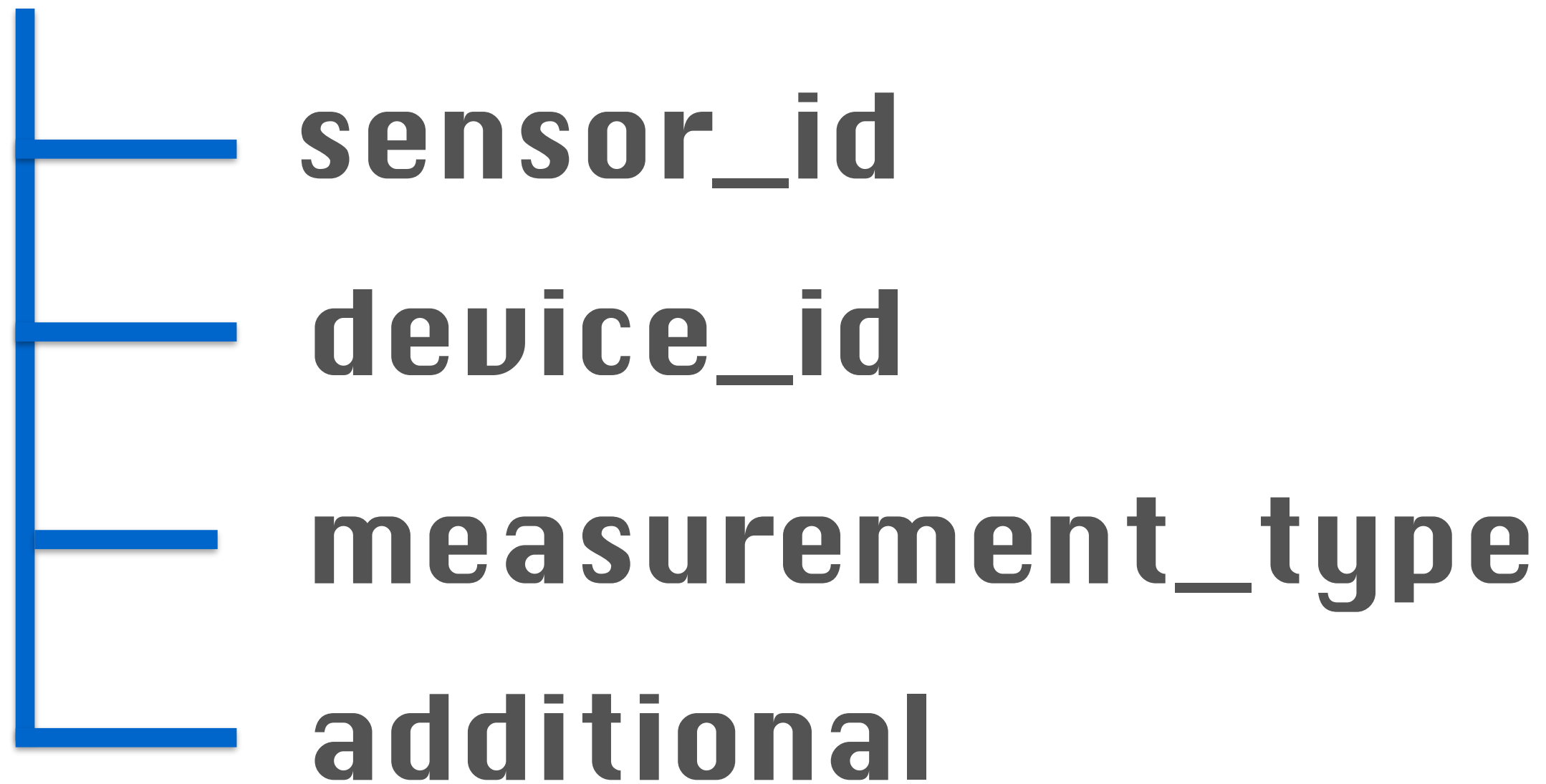
Schema Design

Device



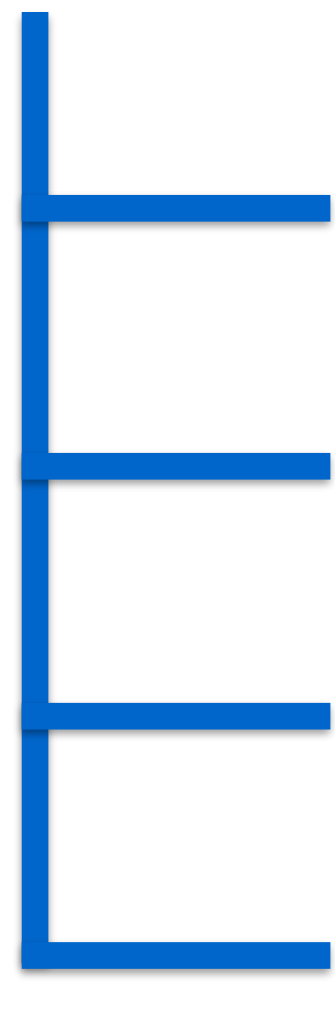
Schema Design

Sensor



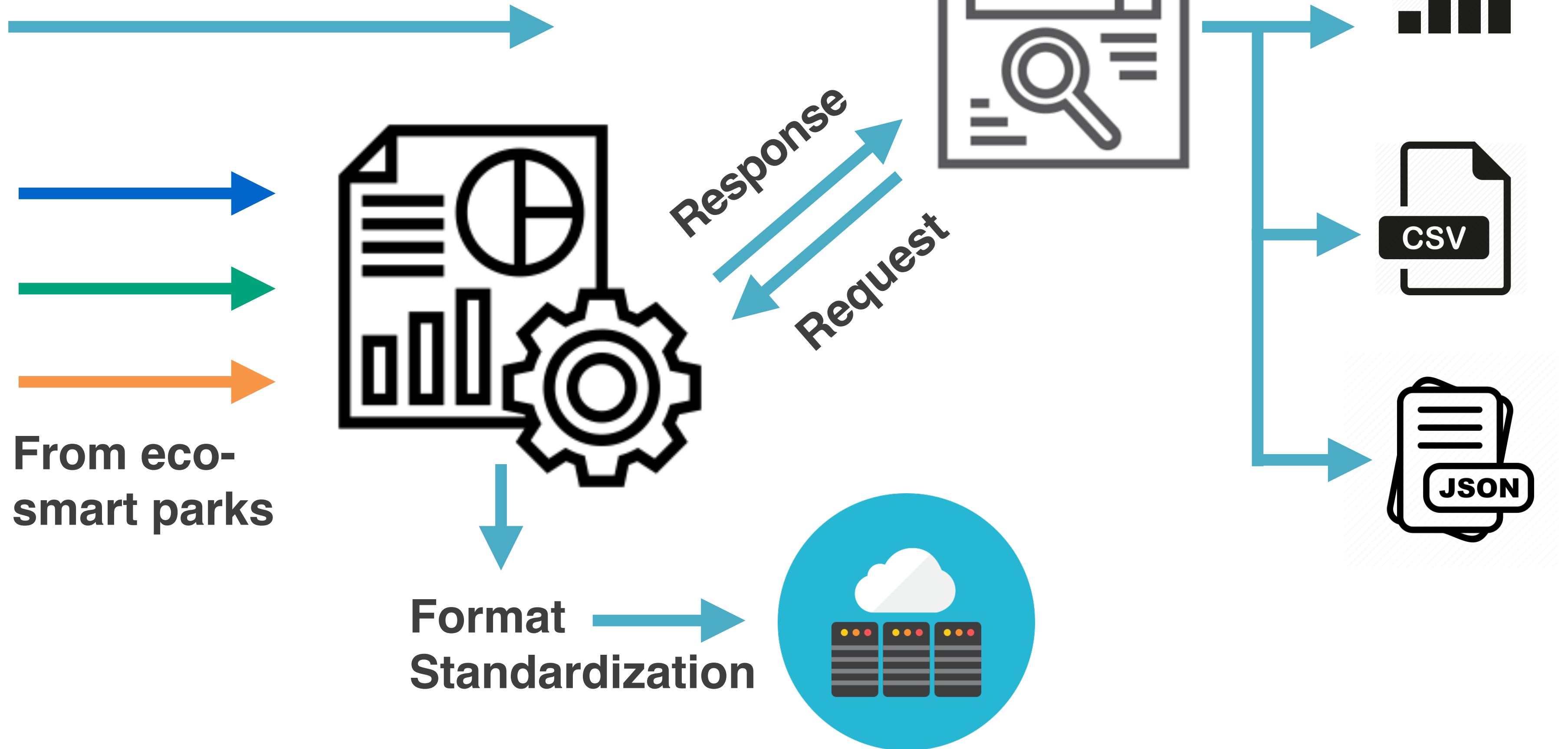
Schema Design

Measurements



sensor_id
time_stamp
value
additional

Data Flow



Contributions

Improving the IoT mindset




Frontend



Backend



Contributions– Backend

1. Design a **uniform yet comprehensive** format for IOT sensor data.
 2. Envisioned a **cross–platform protocol** for eco–smart park and web integration.
 3. **Flexible, portable, and customizable** boilerplate.
 4. **Reduce in production costs** by specialization.
- 



Contributions– Frontend

1. Slick data visualization UI that enables **graphing, filtering, and animating** data.
 2. Allow users to access data by **common formats and simple downloading**.
 3. **Customizable** data fields and utilities for graphing.
 4. Acts as an **data vendor** that specializes in providing **clean and concise** data.
- 