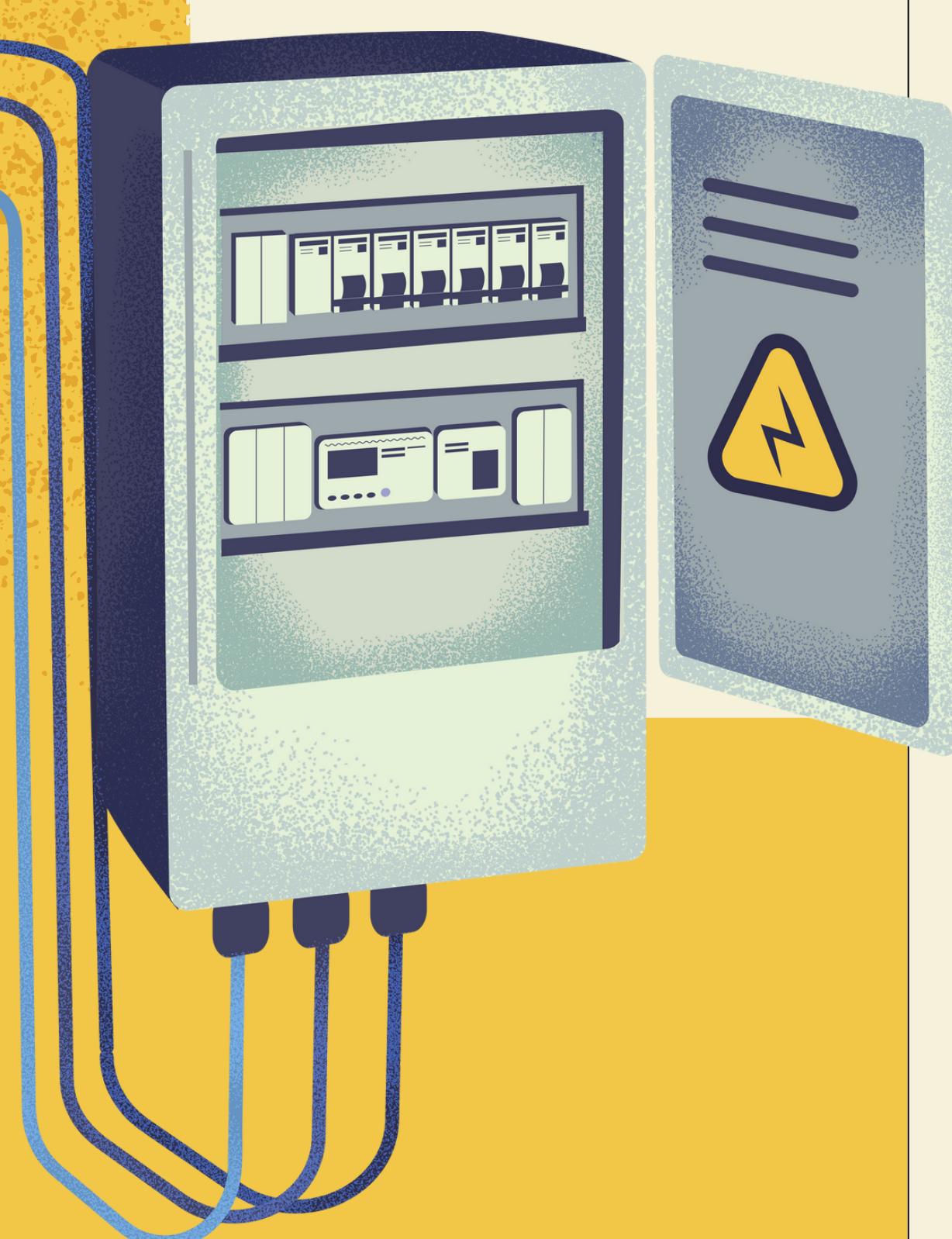


REPAIRABILITY IN CONSUMER ELECTRONICS

ANDREW CHAU

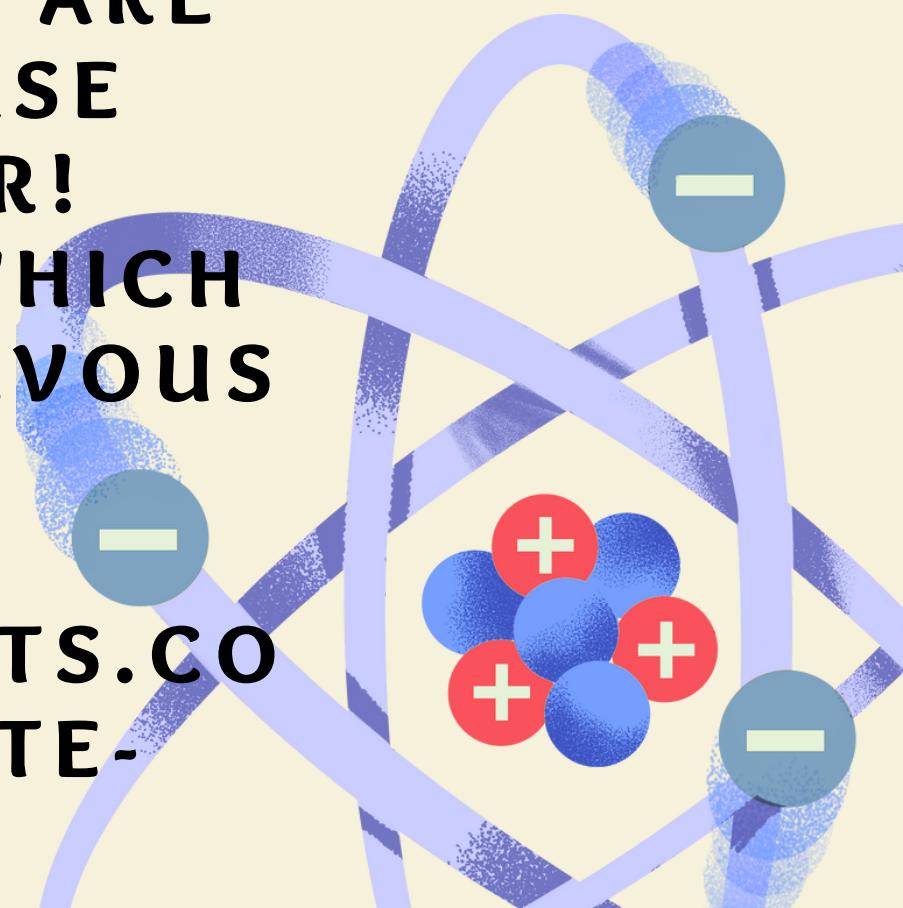
THE TRAGEDY OF WASTE



CONSUMER ELECTRONICS ARE TOO OFTEN DISCARDED

E-WASTE COMPRISSES 70% OF OUR OVERALL TOXIC WASTE. ONLY 12.5% OF E-WASTE IS RECYCLED. 85% OF OUR E-WASTE ARE SENT TO LANDFILLS AND INCINERATORS ARE MOSTLY BURNED, AND RELEASE HARMFUL TOXINS IN THE AIR! ELECTRONICS CONTAIN LEAD WHICH CAN DAMAGE OUR CENTRAL NERVOUS SYSTEM AND KIDNEYS.

[HTTPS://WWW.THEWORLDCOUNTS.COM/STORIES/ELECTRONIC-WASTE-FACTS](https://www.theworldcounts.com/stories/electronic-waste-facts)





REPAIRING ELECTRONICS REDUCES WASTE AND POLLUTION AT MULTIPLE LEVELS

REPAIRABILITY IS THE KEY

- Reduction of waste at the manufacturing level
- Reduction of waste going into landfills, environment
- Reduction of waste from at transportation and other secondary and tertiary levels

Empowering increased repairability as a practice and mindset fortifies against scarcity, poor design, and obsolescence

Multiple stakeholders can benefit

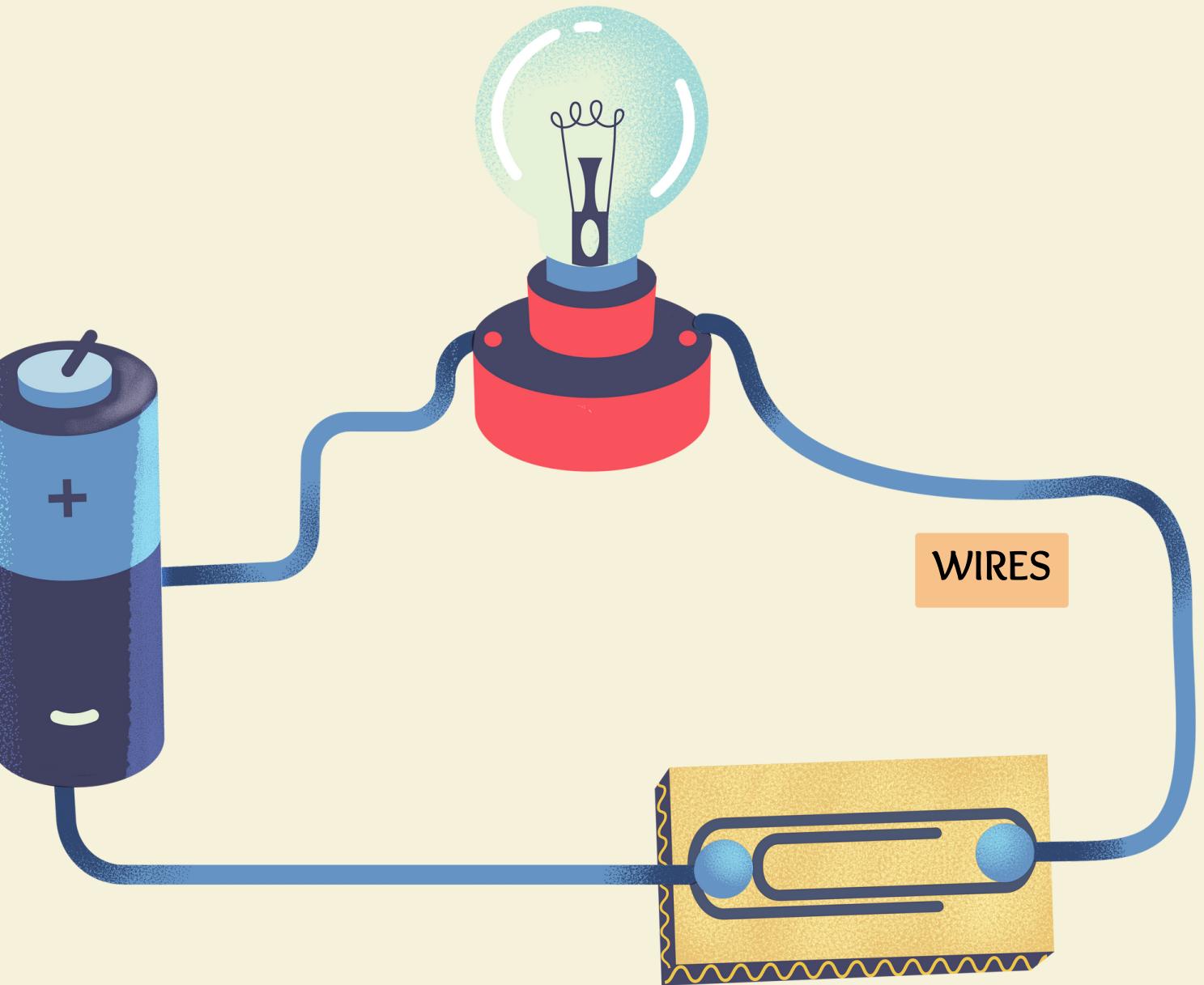
- *Individuals
- *Manufacturers
- *Third Party
- *Government
- *WORLD

OPEN REPAIR DATA STANDARD

<https://openrepair.org/open-data/open-standard/>

```
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 1   data_provider     103076 non-null   object  
 2   country          103076 non-null   object  
 3   partner_product_category  103076 non-null   object  
 4   product_category  103076 non-null   object  
 5   product_category_id  103076 non-null   int64  
 6   brand             103070 non-null   object  
 7   year_of_manufacture  37117 non-null   float64 
 8   product_age       37117 non-null   float64 
 9   repair_status     103076 non-null   object  
 10  repair_barrier_if_end_of_life  7268 non-null   object  
 11  group_identifier  103076 non-null   object  
 12  event_date        103076 non-null   object  
 13  problem           88031 non-null   object  
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OPEN REPAIR DATABASE



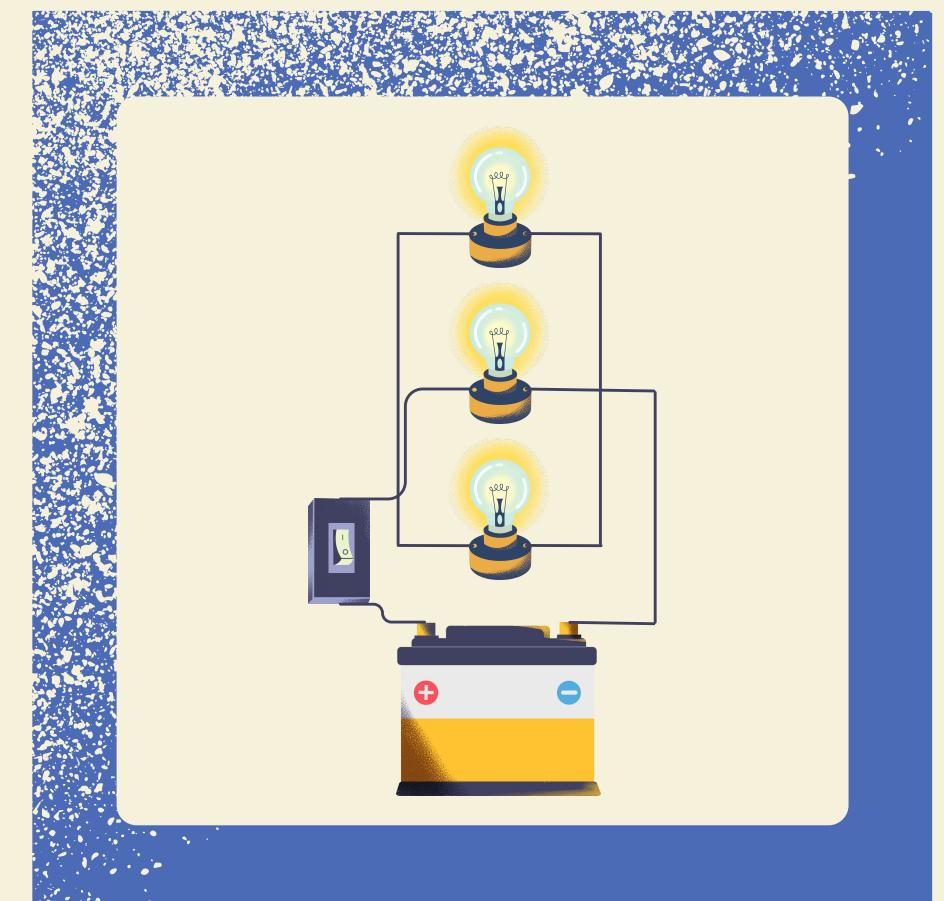
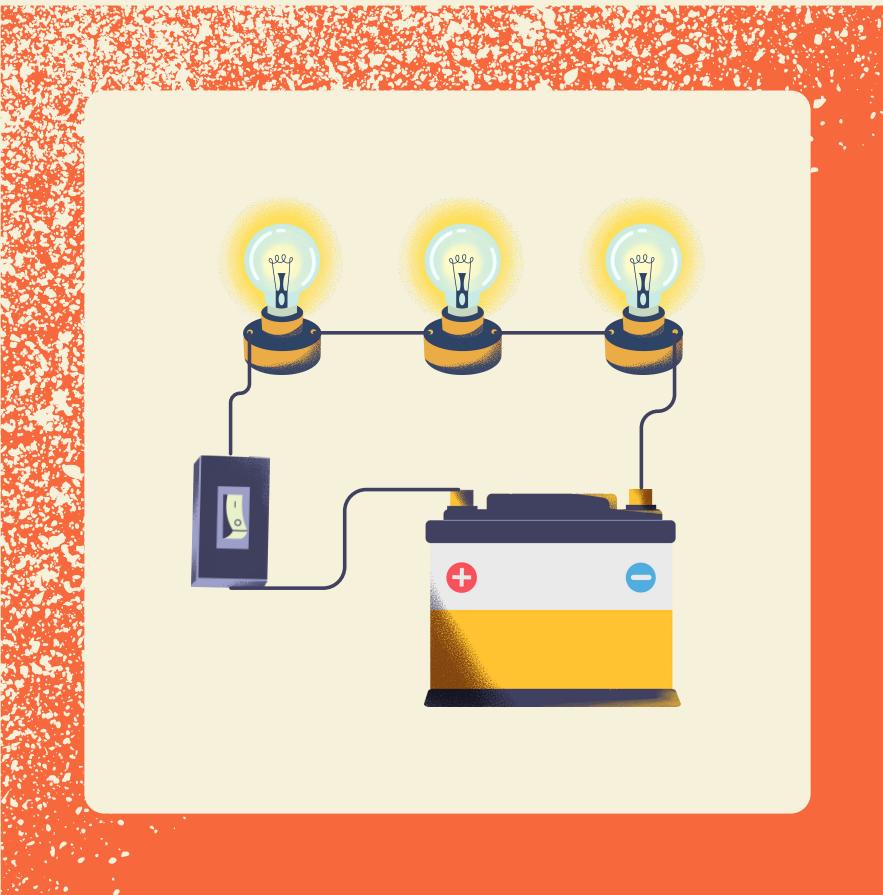
DATA SCIENCE METHODS

- Regression Analysis
- NLP (after translation)
- Clustering

- Combine with repair instruction database to generate viability within certain parameters
- Cost, Time, Existing tools / materials

IMPACT

- Empowered individuals
- Empowered organizations
- Empowered societies



REPAIRABILITY

SAVE THE WORLD, ONE TRINKET AT A TIME

THANKS FOR YOUR ATTENTION!
QUESTIONS?

