



Pokemon Team Builder

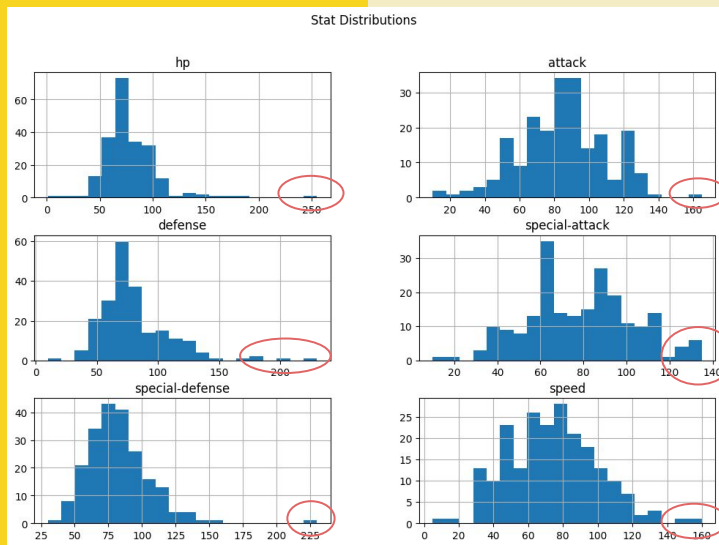
Part 2

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Last Time

- Main purpose: Team builder with stat optimization
 - EDA: looked at distribution of basic stats
 - Removed legendary pokemons



Legendary
pokemons

EDA & Model

Role	Assign Rule
Tank	highest stat is hp/ def/ spdef
Physical Sweeper	attack is highest & speed ≥ 75
Special Sweeper	sp. atk is highest & speed ≥ 75
Support	rest of pokemons

Greedy algorithm: Start with Pokémon with the fewest weaknesses and add one-by-one avoiding overlaps. **Also take roles into consideration by including at least one of each role in the team**

1. **try to include one of each role with no weakness overlap**
2. fill remaining slots with least-overlapping options
3. allow the overlap to complete the team

Shiny App + FLASK

Pokémon Team Optimiser

Pick up to **three starters**, set minimum base stats, and let the app fill the remaining slots while *minimising shared weaknesses* and *covering all four roles* (Tank / Physical Sweeper / Special Sweeper / Support).

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Choose up to 3 starter Pokémon

Ditto

Raichu

Torterra

Minimum base-stat thresholds

HP

1

60

170

Attack

1

60

120

Generate team

hp	attack	defense	special-attack	special-defense	speed	name	types	weaknesses	total_stat	role
60	90	55	90	80	110	Raichu	electric	ground	485	Support
48	48	48	48	48	48	Ditto	normal	fighting	288	Tank
95	109	105	75	85	56	Torterra	grass, ground	bug, grass, poison, ice, flying, fire, water	525	Support
60	60	60	105	105	105	Mismagius	ghost	dark, ghost	495	Special Sweeper
60	95	69	65	79	80	Arbok	poison	ground, psychic	448	Physical Sweeper
80	92	65	65	80	68	Seaking	water	grass, electric	450	Support

Why this team?

Your starters were Ditto, Raichu, Torterra. The optimiser first ensured every required role was covered (Support × 3, Tank × 1, Special Sweeper × 1, Physical Sweeper × 1), then iteratively added Pokémon that introduced the fewest **new** weaknesses. The squad has **14** distinct weaknesses across **15** total type-matchups, meaning only 1 overlap.



A wild Shiny app appeared!

Future Improvements

1. Call API directly to scrape data and image of each pokemon
2. Refine rules to assign roles to increase variety, introducing secondary thresholds or hybrid roles