



Forecasting NYC's 311 Service

May 30, 2024

Presented by Rick Lataille

Hello!



- LinkedIn:
www.linkedin.com/in/rick-lataille/
- GitHub:
github.com/rjlatail/NYC_311_Forecasting

Accurate Forecasting to Serve the City



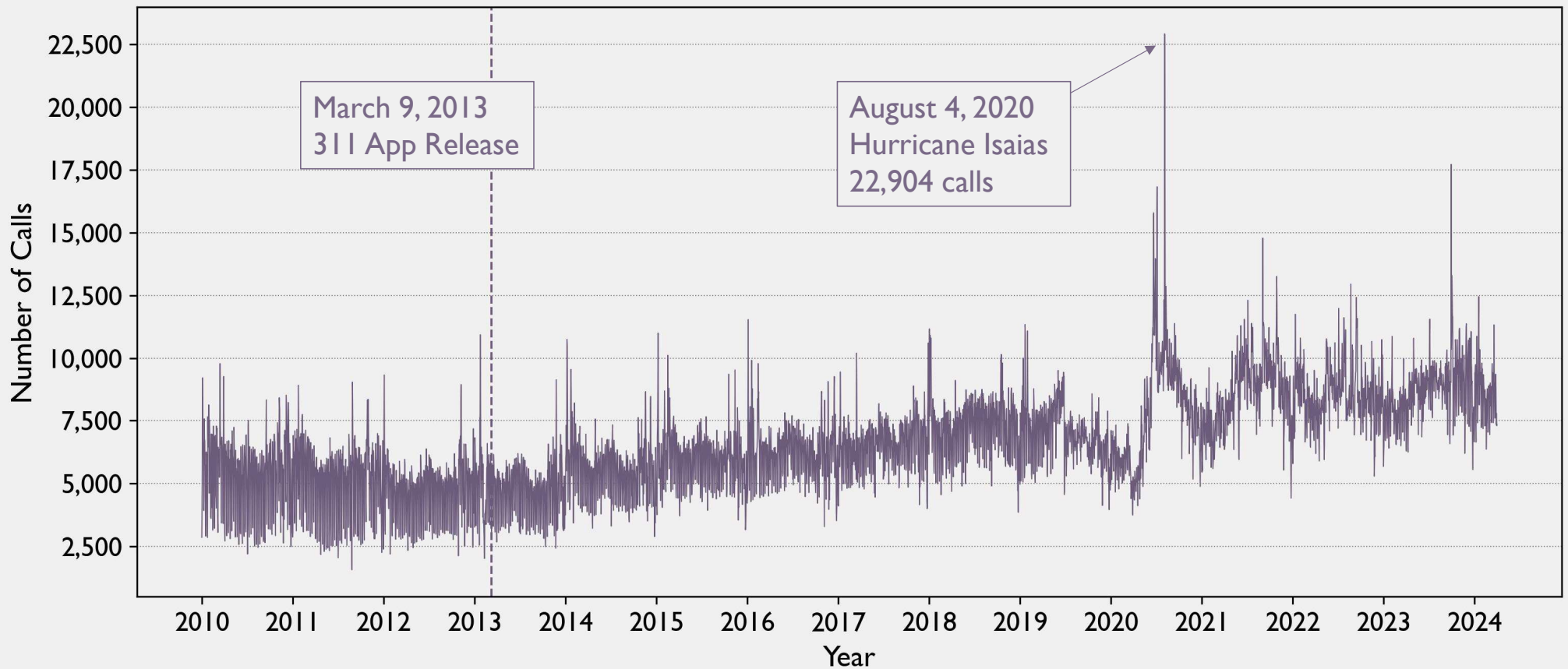
- High and growing demand placing greater burden
- Volatile usage that is hard to predict
- **Forecasting to anticipate usage improves accuracy by up to 54%**

311 Connects NYC Residents to the City

- Streamlines access to City
- Reduces City's costs
- Improves quality of life
- Improves satisfaction

The screenshot displays the NYC 311 website interface. At the top right, there are 'Sign In' and 'Sign Up' buttons. Below these, three yellow buttons are stacked vertically: 'Report Problems', 'Look Up Service Requests', and 'Make Payments'. The main heading 'HOW CAN WE HELP YOU?' is followed by a search bar with the placeholder text 'I want to...' and a magnifying glass icon. The 'NYC Today' section, dated May 25, 2024, lists three items: 'Alternate Side Parking IN EFFECT' with a red 'P' in a circle icon, 'Collections ON SCHEDULE' with a green trash can icon, and 'Schools NOT IN SESSION' with a blue school icon. On the right, a social media feed for NYC 311 shows a 'Reminder' post about consumer fireworks being illegal to use, buy, sell, or transport, and a follow-up post about celebrating safely this weekend.

Usage is Increasing and Volatile



Expectations are High

- Increased usage =
longer wait times =
Angry New Yorkers



Council Member Eric Dinowitz @EricDinowitzNYC · 1h

Passed! My bill Int. No. 0584A-2024 which requires a virtual **queue** system to provide estimated wait times for **311** calls has just become law.

This is the first step to reforming our **311** system and the first law to be made from our CARE311 legislative package.



Adrienne Adams and 4 others

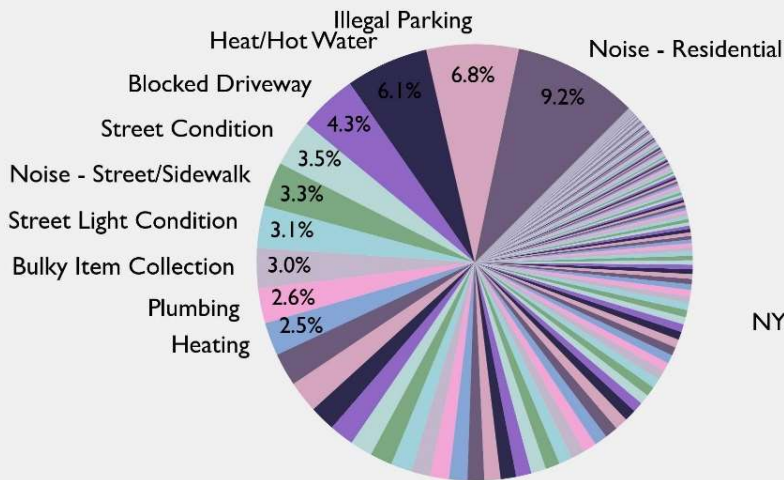


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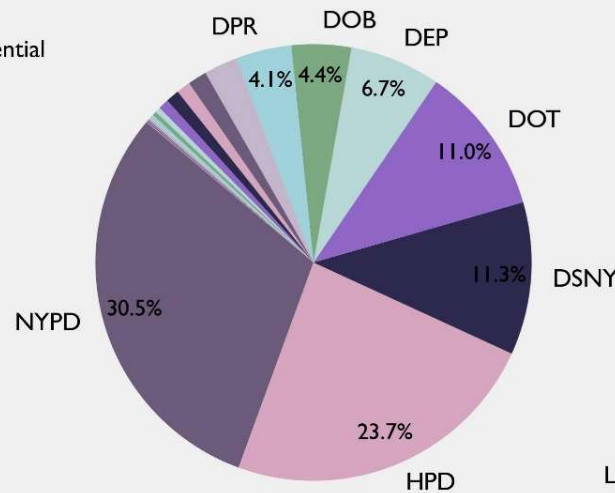


There are Many Agencies and Services...

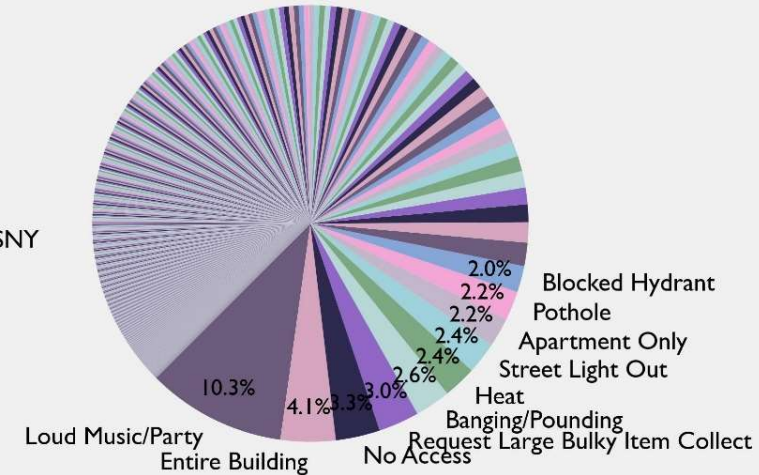
Request



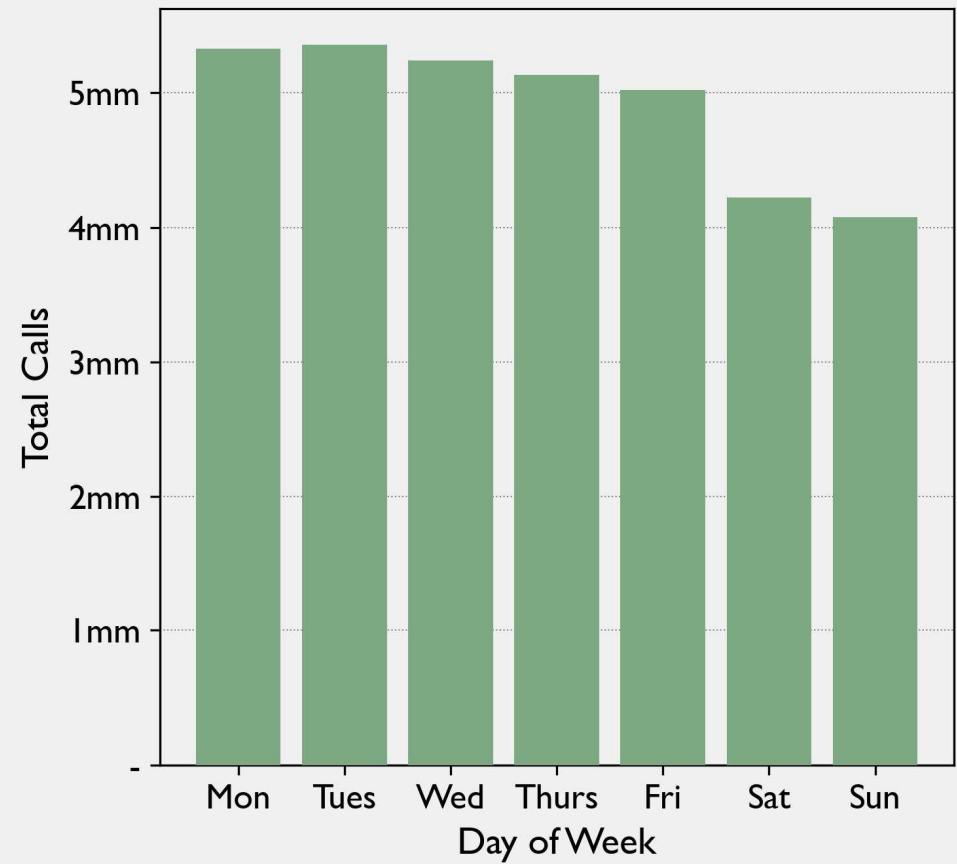
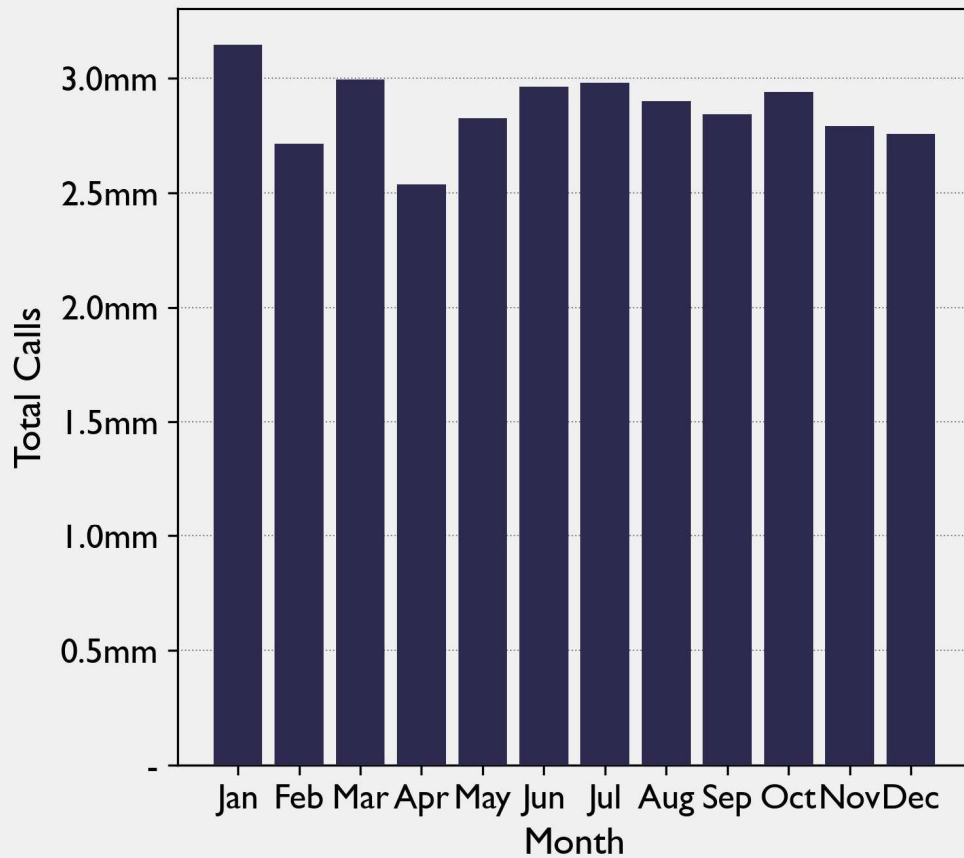
Agency



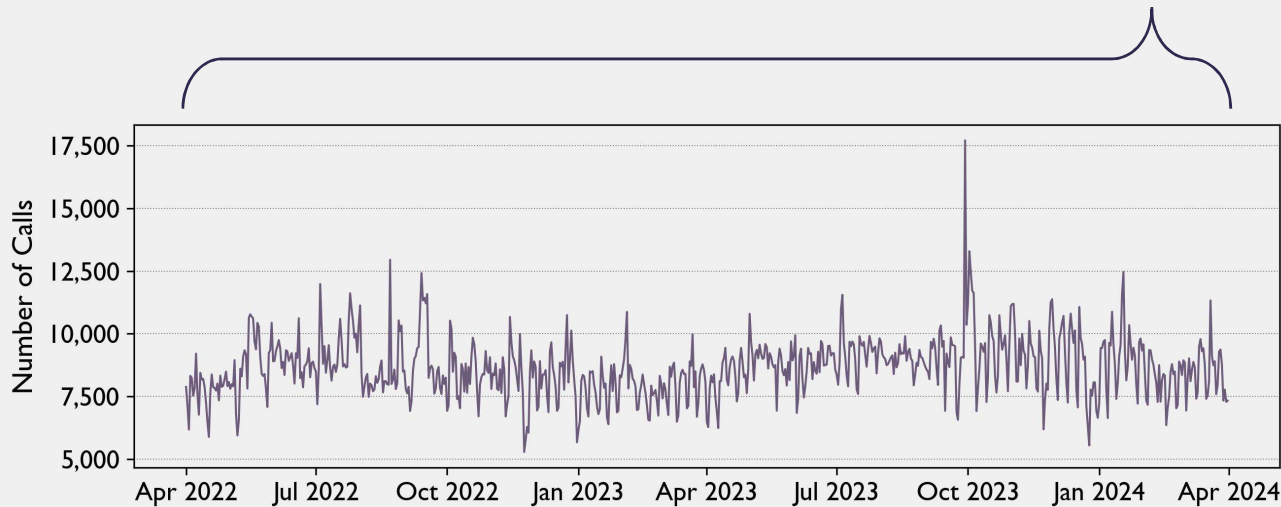
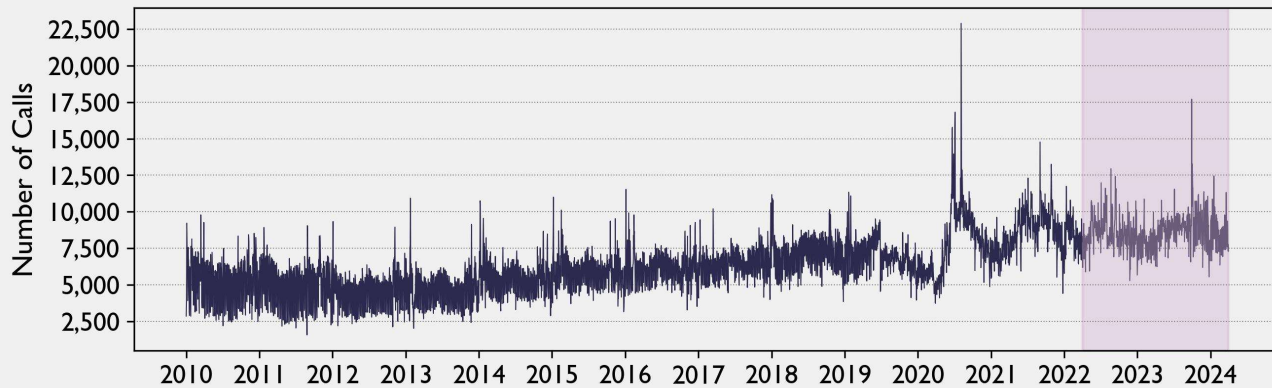
Subtype



...With Limited Predictable Patterns

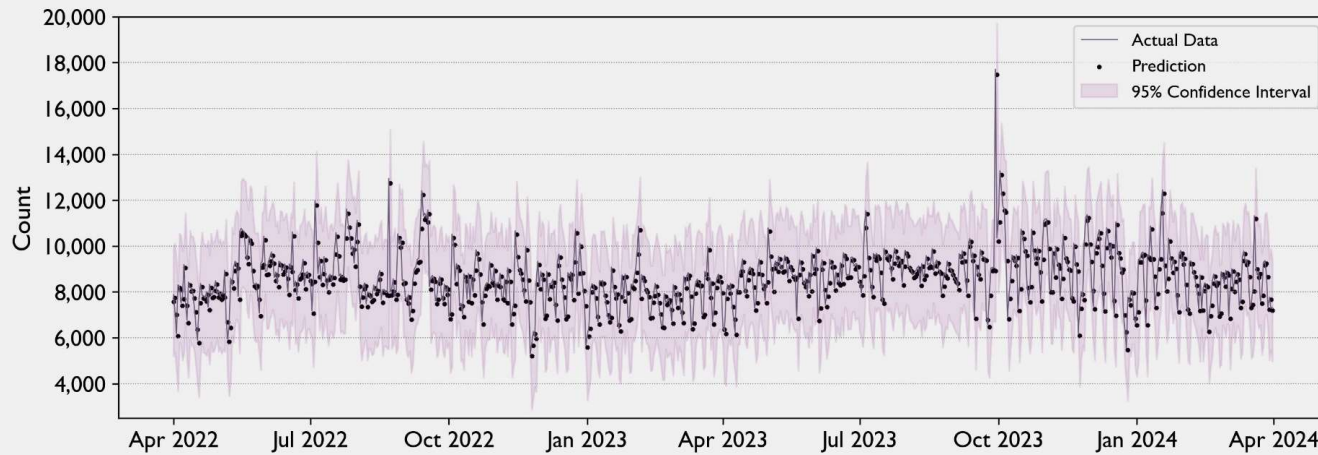


Goal: Forecast for Next Day, Week, Month

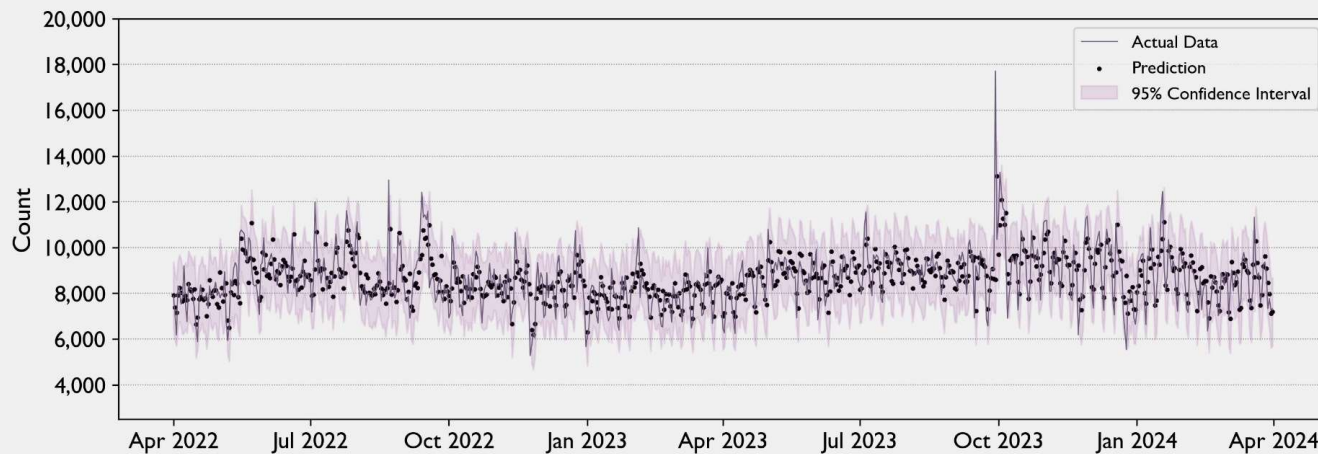


- Daily forecast
Operational planning
- Weekly forecast
Tactical planning
- Monthly forecast
Strategic planning

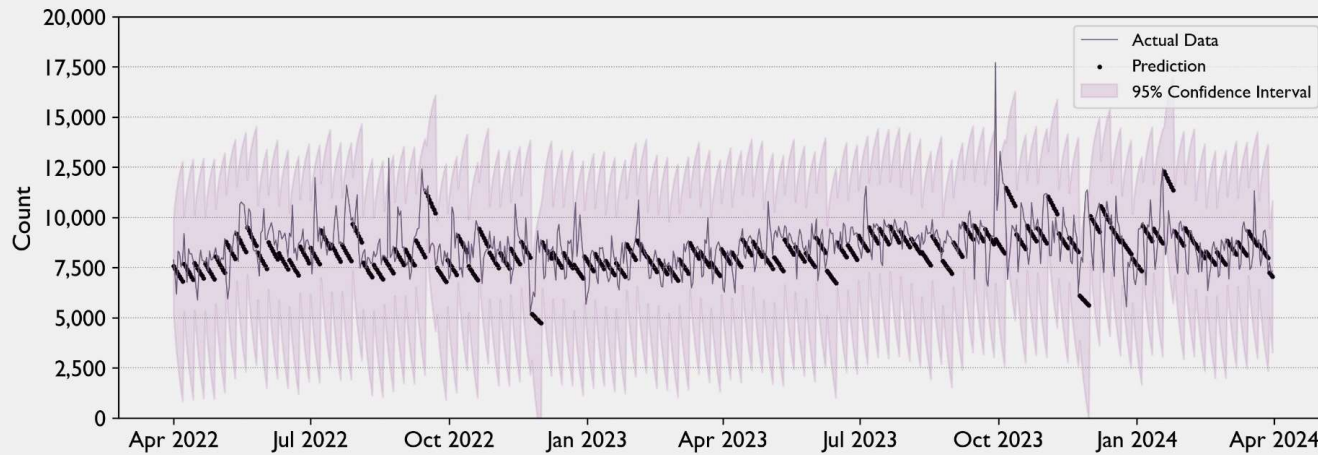
Daily Forecasting



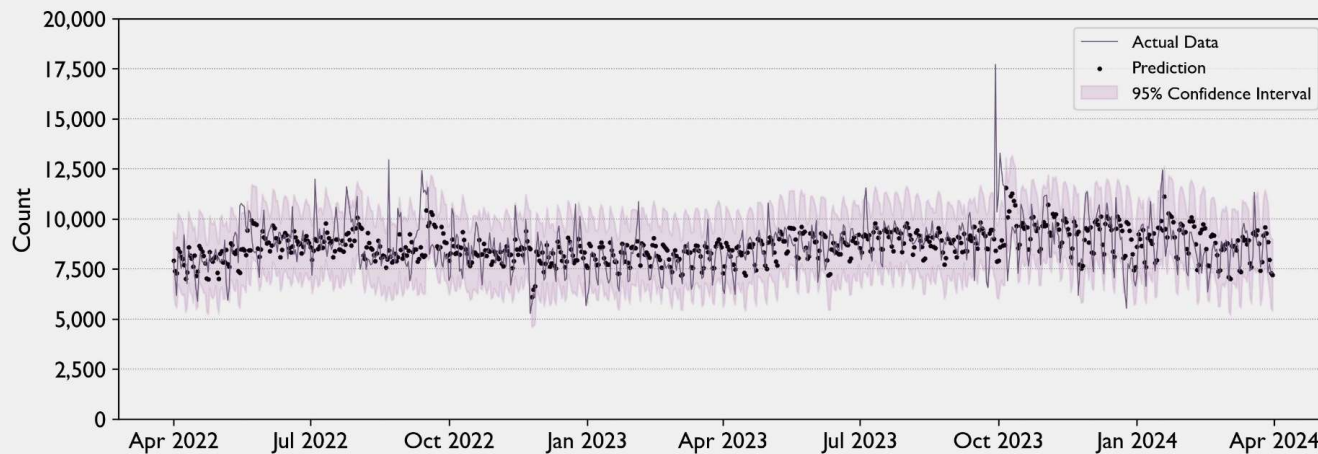
- Daily forecast improves by **22%**
- Confidence improves by **35%**



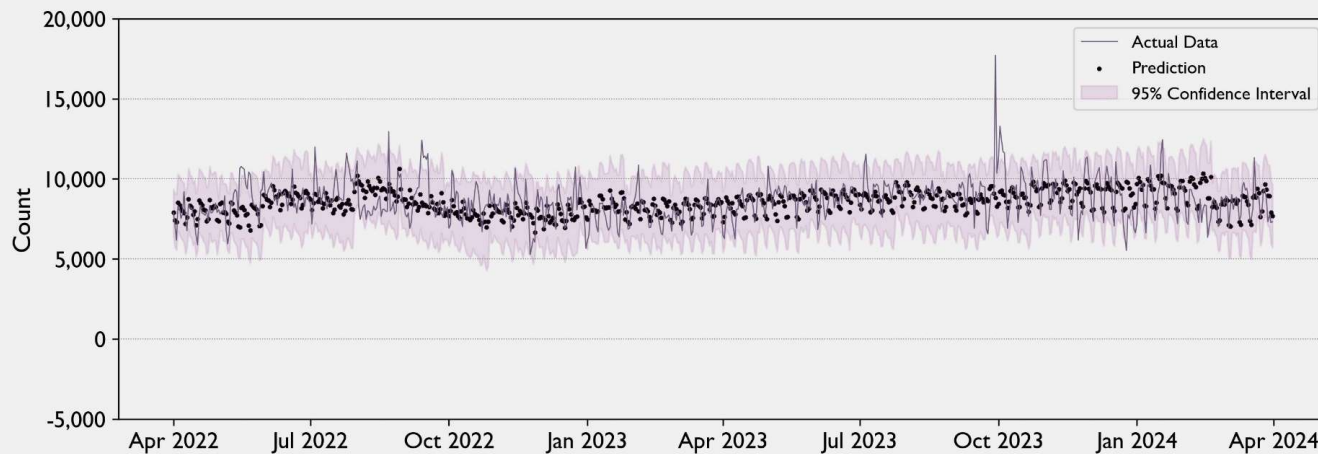
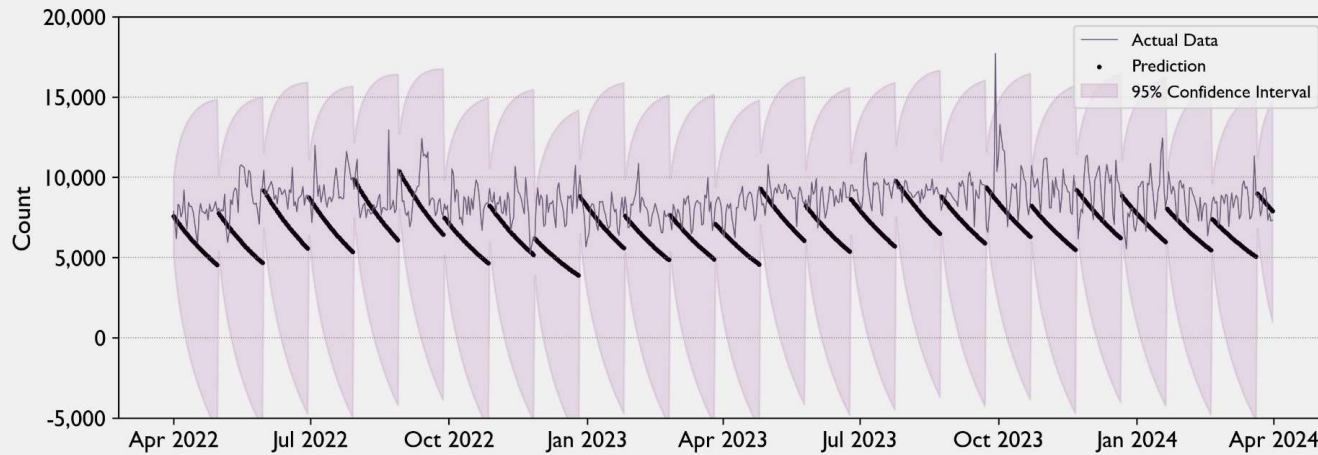
Weekly Forecasting



- Weekly forecast improves by **26%**
- Confidence improves by **58%**



Monthly Forecasting



- Weekly forecast improves by **54%**
- Confidence improves by **73%**

Steps for the Future



- Decompose Dataset for Agency and Request Models
- Geolocate Requests to Search for Covariants
- Public Campaign to Enhance Usage to Enrich Data

Questions?

