# Can You Beat the System? Predicting Parking Ticket Appeal Success in Charlottesville

Imagine you're frustrated after receiving a parking ticket in Charlottesville. You appeal it online out of frustration, but deep down, you wonder: Do I actually stand a chance?

Predicting appeal success can provide insight into the fairness and consistency of municipal decision-making. It also gives citizens and policymakers a clearer picture of how factors such as time, location, and violation type influence outcomes.

In this case study, you'll step into the role of a data scientist working with real Charlottesville parking data to answer that question. Using time, location, violation type, and vehicle information, you'll build models to predict whether a parking ticket appeal will succeed or fail.

## Your Mission

Use machine learning to analyze Charlottesville's parking ticket dataset and develop a model that predicts the likelihood of a successful appeal. You'll compare different models (Logistic Regression, Random Forest, XGBoost) and evaluate which performs best.

## Deliverable

At the end of your project, you will produce these deliverables:
- A cleaned dataset and Jupyter notebook with full modeling code
- Evaluation of Logistic Regression, Random Forest, and XGBoost models
- Comparison of results with interpretation of feature importance
- A written reflection on the limits of predictive modeling for civic processes

Start your project here:
https://github.com/SzetoBen/BME-Time-Series-Project/tree/parking-ticket-case-study