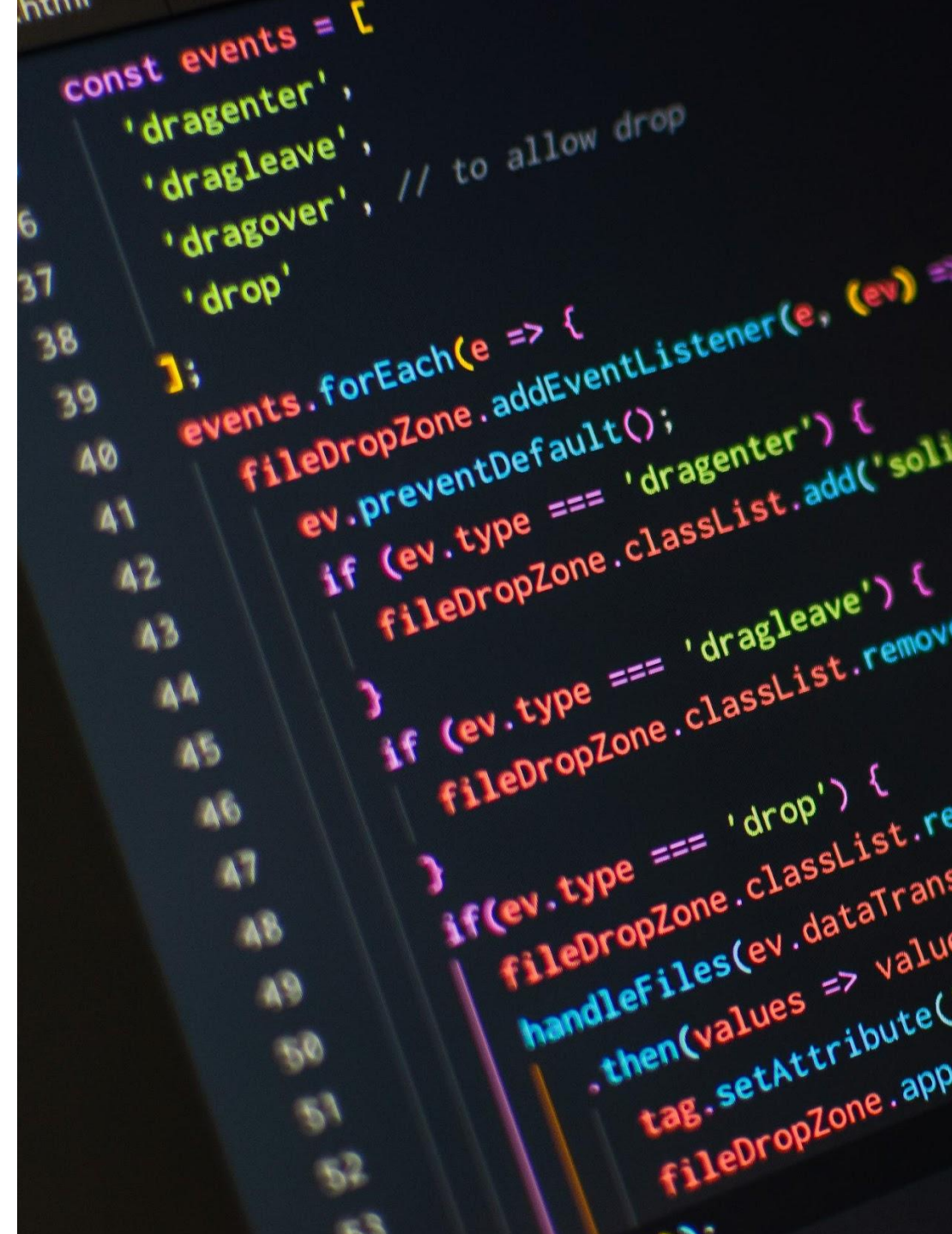


Interpreting Code

with Natural Language Processing

Eileen Cai
Data Scientist



```
const events = [
  'dragenter',
  'dragleave',
  'dragover', // to allow drop
  'drop'
];
events.forEach(e => {
  fileDropZone.addEventListener(e, (ev) => {
    ev.preventDefault();
    if (ev.type === 'dragenter') {
      fileDropZone.classList.add('solid');
    }
    if (ev.type === 'dragleave') {
      fileDropZone.classList.remove('solid');
    }
    if (ev.type === 'drop') {
      fileDropZone.classList.remove('solid');
      handleFiles(ev.dataTransfer.files);
      .then(values => values.map(file => {
        tag.setAttribute('src', file.url);
        fileDropZone.appendChild(tag);
      }));
    }
  });
});
```

Let's make social media platforms **safe**!



But sometimes it's
gibberish to me, too...

```
import passport from 'passport';
import LocalStrategy from 'passport-local';
import { Strategy as JWTStrategy, ExtractJwt } from 'passport-jwt';
import Request from 'supergiant';

import User from '../models/user_model';
import constants from '../config/constants';
import { createError } from '../helpers/auth_helper';

/**
 * Local Strategy Auth
 */
const localStrategy = new LocalStrategy({
  usernameField: 'username'
});

const localLogin = new LocalStrategy(
  localStrategy,
  async (username, password, done) => {
    try {
      const user = await User.query().where('username', username);

      if (user.length === 0) {
        const userData = {
          username,
          password,
        };
        const { user: newUser } = await createUser(userData);
        return done(null, createUser(newUser));
      } else if (!user[0].password === password) {
        return done(null, false);
      }

      return done(null, user[0]);
    } catch (e) {
      return done(null, false);
    }
  }
);

/**
 * JWT Strategy Auth
 */
const jwtOptions = {
  jwtFromRequest: ExtractJwt.fromAuthHeaderWithScheme('JWT'),
  secretOrKey: constants.JWT_SECRET,
};

const jwtLogin = new JWTStrategy(jwtOptions, async (payload, done) => {
  try {
    const { user } = await User.query().where('user_uid', payload.user_uid);
    if (user.length === 0) {
      return done(null, false);
    }

    return done(null, user[0]);
  } catch (e) {
    return done(null, false);
  }
});
```


I Love You, Blankie



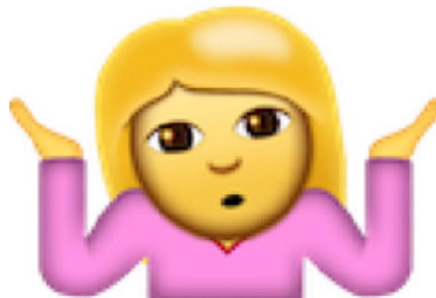
Dataset (tweets)



Hate Speech (class 0)



Offensive Language (class 1)



Neither (class 2)

Next Steps

Data Processing

- Explore custom tokenization
- Explore Lemmatization

Inputs/Vectorization

- Larger set of data, retrain (bigger vocab)
- Stopwords for code, intent

Model Architecture (Try different models)

- Logistic Regression
- KNN
- Decision Tree

Questions?

If a dog wore pants would he wear them
like this or like this?

