



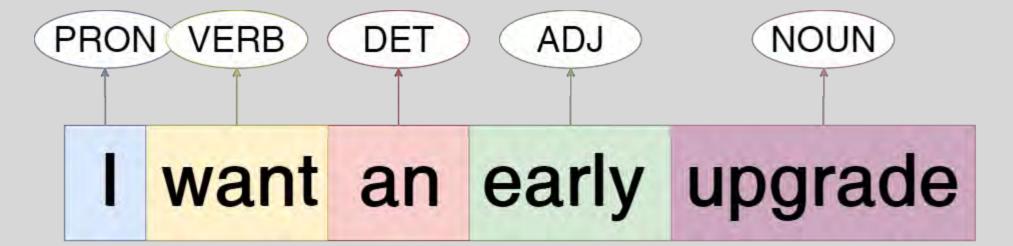
My Coder Academia

James Arnold, Jon Kleehammer, Lupe Rivera, Phillip Merritt



Project Overview

Natural language processing is a rapidly expanding field as companies work to develop ever more sophisticated audio and text-based interfaces for their AI assistant and customer service systems. In order to train these new systems well annotated datasets are needed, but current NLP annotation software (like GATE) have limitations in portability and lack many quality of life features for annotators. Annotation Example:



Creating a completely web-based NLP annotator app will make it possible to annotate from anywhere in the world on any system with a basic web browser. By working closely with real experienced NLP annotators to include sorely sought-after annotation tools, the productivity of annotaators could also be improved. This web-based system will also allow NLP annotators to access/manage the annotated datasets they create from anywhere they choose.

Features

- File Management
- Upload, edit, and save files
- Pre-processing
- Can invoke tokenizers, sentence splitters, POS taggers, NER tagger, Dependency tagger
- Document Annotation
- Can load documents and use a custom editor to annotate it.
- Dataset Analysis
 - Can visualize and compare annotated datasets between older versions and annotations by different users.
- Dataset Management
 - Can create and remove datasets as well as adding documents, removing documents, and moving documents between datasets.
 - Can share access to datasets via group membership.

Design

Our sponsor requested a webapp instead of a desktop app because it's easy is to start using and more stable, especially with updates rolling out as we make changes like bug fixes and content updates to the product. Current tools that exist are extremely clunky and so we made improvements to the user interface to allow for it to be easy to get started, quick to annotate, and more enjoyable to do.

Testing

For testing, the approach was dividing all tests into unit, integration, and functional testing. Unit tests were written by the developers before feature development to adhere to Test Driven Development. Integration testing was used for testing modules and were written by associated developers. Functional tests were written as a team to ensure quality. Testing was also included in the Continuous Integration pipelines to assure quality as features were rapidly introduced to the codebase.

Technologies Used

Frontend

For the web app's frontend we chose to use Angular for its quick implementation, modularity, and scalability over using pure HTML/CSS/JS.

Backend

For the backend we chose to use SQLalchemy and PostgreSQL which is served to the frontend through a Flask REST api. We chose these since they provide a uniform python environment for the server and a SQL based database for file storage and management.

Annotate Visualize Analyze Login little or no money in my purse, and nothing particular to interest me on shore, I thought I would sail about a little and see the watery part of the world. It is a way I have of driving off the spleen and regulating the circulation. Whenever I find myself growing grim about

Annotation Tags Deku Fanfics New Tag Clear the mouth; whenever it is a damp, drizzly November in my soul; whenever I find myself involuntarily pausing before coffin warehouses, and verb Edit bringing up the rear of every funeral I meet; and especially whenever my hypos get such an upper hand of me, that it requires a strong moral Gym Stories principle to prevent me from deliberately stepping into the street, and adjective Edit methodically knocking people's hats off-then, I account it high time to get to sea as soon as I can. This is my substitute for pistol and ball. but knew it, almost all men in their degree, some time or other, surf. Right and left, the streets take you waterward. Its extreme downtown is the battery, where that noble mole is washed by waves, and cooled by breezes, which a few hours previous were out of sight of land. Look at the crowds of water-gazers there. Circumambulate the city of a dreamy Sabbath afternoon. Go from Corlears leaning against the spiles; some seated upon the pier-heads; some looking over the bulwarks of ships from China; some high aloft in the rigging, as if striving to get a still better seaward peep. But these

Screenshots

The main view the user will be using to annotate text. Showing an example document, file tree, annotation buttons, and menu bar with other tools in the product

CHAPTER 1. Loomings. Call me Ishmael. Some years ago-never mind how long precisely-having little or no money in my purse, and nothing particular to interest me on shore, I thought I would sail about a little and see the watery part of the world. It is a way I have of driving off the spleen and regulating the circulation. Whenever I find myself growing grim about the mouth; whenever it is a damp, drizzly November in my soul; whenever I find myself involuntarily pausing before coffin warehouses, and bringing up the rear of every funeral I meet; and especially whenever my hypos get such an upper hand of me, that it requires a strong moral principle to prevent me from deliberately stepping into the street, and methodically knocking people's hats off-then, I account it high time to get to sea as soon as I can. This is my substitute for pistol and ball. With a philosophical flourish Cato throws himself upon his sword; I quietly take to the ship. There is nothing surprising in this. If they but knew it, almost all men in their degree, some time or other, cherish very nearly the same feelings towards the ocean with me. There now is your insular city of the Manhattoes, belted round by wharves as Indian isles by coral reefs-commerce surrounds it with her surf. Right and left, the streets take you waterward. Its extreme downtown is the battery, where that noble mole is washed by waves, and cooled by breezes, which a few hours previous were out of sight of land. Look at the crowds of water-gazers there. Circumambulate the city of a dreamy Sabbath afternoon. Go from Corlears Hook to Coenties Slip, and from thence, by Whitehall, northward. What do you see?-Posted like silent sentinels all around the town, stand thousands upon thousands of mortal men fixed in ocean reveries. Some leaning against the spiles; some seated upon the pier-heads; some looking over the bulwarks of ships from China; some high aloft in the

A zoomed in screenshot of the annotations. Showing how the user can annotate a single word, a single character, or as many words/sentences/paragraphs they want.

rigging, as if striving to get a still better seaward peep. But these