

Reflective Journal Student: Ahmet Burak Solak Course: ITAI2373 Project: NewsBot Intelligence System 2.0

1. Start At first I feel a little lost. I read the data file. I see many news texts. I decide to make the system simple.
2. What I Did I cleaned text. I removed strange symbols. I made words lowercase. I used lemmatize. I built TF-IDF features. I added small extra features like noun ratio. I trained a Random Forest model. I checked accuracy. I added sentiment and named entities. I made a small summary function. I wrote a simple chat style bot.
3. What I Learned I learned how to join classic NLP steps. I learned that preprocessing changes accuracy. I learned TF-IDF is easy and strong. I learned how to read spaCy entities. I learned simple sentiment can give quick feeling of text. I learned how to combine features into one model.
4. Problems Some code ran slow at first. spaCy model was missing and gave error. I forgot to download model. Search function did not find politics because of bad parsing. I fixed by cleaning words from query. Summary sometimes picks weak sentences. I keep it basic.
5. Fixes I downloaded spaCy model. I simplified query parsing. I limited features to keep speed. I used a small model (en\_core\_web\_sm). I added clear print messages.
6. Feelings At first I was unsure. Later I felt more steady. When accuracy looked good I felt happy. When search failed I felt nervous, but fix was easy.
7. Skills Gained Text cleaning. Feature engineering. Simple model training. Sentiment and entity extraction. Writing helper functions. Building a tiny interface.
8. What Can Improve Better summary (use more smart method). Add translation real API. Add topic modeling. Real web UI. More error handling. Faster search (index). Save model to file.
9. Biggest Lesson Keep pipeline clear. Clean data first. Add features in small steps. Test each part. Simple is good.
10. Next Steps Add LDA topic model. Add translation. Deploy as web app. Try different classifier (maybe logistic regression or SVM). Add storing results in a database.
11. Personal Growth I now feel more comfortable with NLP basics. I can explain pipeline in simple words. I can debug small errors faster.
12. End Project works. It is a good base. I am proud of progress.