Risk Prediction
Sentiment Analysis
Outline

- Project Overview
- Timeline
- Solution Architecture
  - Data Retrieval Flow
  - Model Training Flow
- Costs
- Frontend
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Project Overview

Create a webapp to analyze workplace incident reports for positive or negative sentiment.
Timeline

- **Sept 2021**: Set Up - Clean Data, Make initial front end design
- **Oct. 2021**: AWS Comprehend - Setting up front-end and backend routes for AWS Comprehend and storing data in S3 and DynamoDB
- **Nov. 2021**: Analysis of Results - Once we have run AWS Comprehend on our Data, make sure the accuracy is good enough for viable solution
- **Dec 2021**: Custom Comprehend - Since comprehend was not up to our standards we are going to try to implement a custom model of Comprehend
Data Retrieval

Frontend

Amazon S3

Backend

Amazon EC2

Amazon DynamoDB
Model Training

Frontend

Amazon S3

Backend

Amazon S3

Amazon EC2

Amazon Comprehend
Sentiment Analysis

Frontend

Amazon S3

Backend

Amazon EC2

Amazon S3

Amazon DynamoDB

Amazon Comprehend
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<tr>
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<th>October</th>
<th>November</th>
<th>December</th>
<th>Total</th>
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Total: $31.65
Frontend

Upload Data
Frontend

Viewing Data
Frontend

Sorting Table
Frontend

Reviewing Data
Lessons Learned

- Data may skew general results
- Meeting times are difficult when coordinating with many different people.
- Working with AWS Permissions and Costs
  - Changed DB service to meet expectations/reduce costs
- Managing workflow across many different machines and developers
What Went Well

- Client Meetings
- Continual development of tasks and needs
- Resolution of connections between sub-tasks.
  - Frontend/Backend
  - AWS Permissions/Roles
Future Plans

- Frontend Optimization
- Implementing for different cloud models
- Implementing Text to Speech
- HTTPS
- Automatically reevaluate data
- Improve model accuracy with more data
  - Achieved 63% with 250 samples
Acknowledgements

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References


Questions?