

Training MLPs to Diagnose Depression

Group 19

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Slide 1: Problem Description & Dataset

- 44% of students reported depressive symptoms (1)
- Dataset of 30,000 people
- Build best the Deep Learning model to detect depression
- Can an LLM detect depression?



(1)

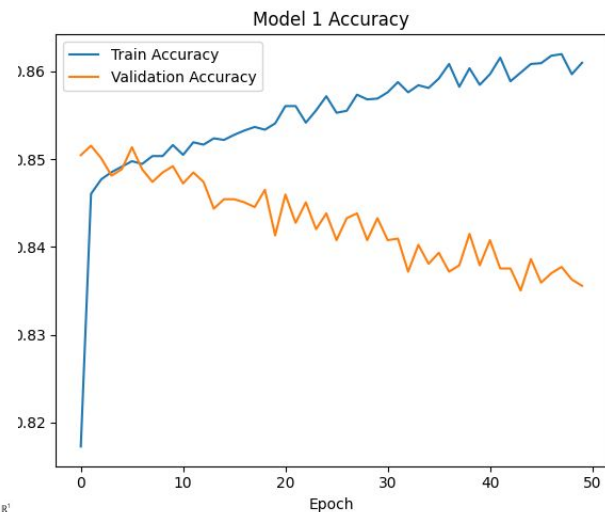
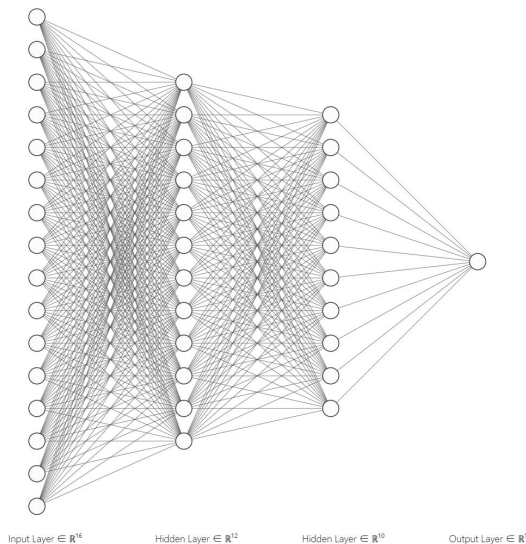
<https://sph.umich.edu/news/2023posts/college-students-anxiety-depression-higher-than-ever-but-so-are-efforts-to-receive-care.html>



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Slide 2: Training Neural Networks & Results

- Did preprocessing on Dataset
- Experimented to train different NNs
- Highest correct predictions around 85% of the time
- Variation in dataset, either need more samples or w/ more information.



Slide 3: Results, Comparison & Conclusion

- Finally, loaded some LLMs (ChatGPT & LLama)
- Sent them queries w/ information from dataset, looked for a response
- Variable levels of accuracy, especially compared to our models (typically lower, usually around 70%)
- Not accurate for general diagnosis, but usable for casual testing.

Here is the information from particular student:

- Gender: Male
- Age: 33.0
- City: Visakhapatnam
- Profession: Student
- Academic Pressure: 5.0
- Work Pressure: 0.0
- CGPA: 8.97
- Study Satisfaction: 2.0
- Job Satisfaction: 0.0
- Sleep Duration: 5-6 hours
- Dietary Habits: Healthy
- Degree: B.Pharm
- Have they had suicidal thoughts before? Yes
- Work/Study Hours: 3.0
- Financial Stress: 1.0
- Family history of mental illness: No

Please Respond with only one word: either 1 or 0.

```
display(Markdown(chain.invoke({question_1})))
```

Based on the provided information, I would respond with:
0

