The problem: Item valuing in the video game Dark and Darker. It's currently a time-consuming task to value items since the market is always changing. I want to use AI to predict the value of an item based off its info. Items are also used as currency, and the items used for currency can change. For example, a rare axe could be worth 3 common swords. The idea is to use the trade post, where people showcase their items with prices to train a machine learning model. The data could easily include ~80,000 trade messages. The data is structured but messy.

The input: Item info (name, type, effects, rarity)

The output is one of: Relative value score/Price range/Price in multiple currencies

These are some items; some have effects some do not. Some effects are more desirable and increase the price of an item.

In the example above, +3 Max Health and +1.5% Physical Damage Bonus increase the items value, while +4% Magical Interaction Speed and the others are near useless.

The trade post has many styles of messages for different purposes. Handling noise is an area of my concern. Below is an example of some common messages.

Trading Post – Trading Post #1   Read Rules

Item Type   Item Name   Item Rarity
Item Slot   Item Property   Item Class

[10:08] Cosmos542: [Cinder] 2db llad
[10:08] Coleido: [Pulverizing Prayer] 1LAD!DB
[10:08] sabA4A: [Deathbloom] 1 lad 2 full
[10:08] nihonnzinn64: [Pulverizing Prayer] 2db
[10:08] Elborrachodlaesquina: [Fulgor]
[10:08] Cosmos542: [Cinder] 2db llad
[10:08] ftb319: [Deathbloom], [Deathbloom], [Deathbloom], [Deathbloom], [Deathbloom] egg
[10:08] Butt3rKnife: [Deathbloom], [Deathbloom], [Deathbloom], [Stinky Stick] wts
[10:08] shayqer: [Leviathan] 1db
[10:08] zwwizz: [Gold Coin Purse] hello can i have some free wiz stuff or coins for end of wipe, ty
[10:08] timmy2blazedTTVbard: [Deathbloom], [Deathbloom], [Deathbloom], [Deathbloom], [Deathbloom] WTB
                        EGG
[10:08] DouyinAmisatOgiek: [Pestilence] DB
[10:08] OnePunchManDR: [Deathbloom] llad 2full
[10:08] Coleido: [Pulverizing Prayer] 1LAD 1DB
[10:08] Fawhsheet420: [Leviathan] 1db
[10:08] Bownads: [Spellweaver] 1 LAD 2 FULL
[10:08] Cosmos542: [Cinder] 2db llad
[10:08] DouyinAmisatOgiek: [Pestilence] DB
[10:08] TheAlmightyBoB: [Fulgor] 3db 2 full or a viola
[10:08] EXevillock: [Catice], [Fulgor] wtt egg
[10:08] Fawhsheet420: [Leviathan], [Pulverizing Prayer]
[10:08] Bownads: [Spellweaver] 1 LAD 2 FULL
[10:08] nihonnzinn64: [Pulverizing Prayer] 2db
[10:08] OnePunchManDR: [Deathbloom] llad 2full
[10:09] Cosmos542: [Cinder] 2db llad
[10:09] Bownads: [Spellweaver] 1 LAD 2 FULL
[10:09] DaoZei1688: [Bloodthirst], [Sterling Blade], [Deathbloom]
[10:09] shijiediyishi28: [Fulgor]
[10:09] TheAlmightyBoB: [Fulgor] 3db 2 full or a viola
[10:09] BlackPaper: [Cinder], [Cinder], [Cinder], [Bloodthirst], [Spellweaver]
[10:09] Bownads: [Spellweaver] 1 LAD 2 FULL
[10:09] OnePunchManDR: [Deathbloom] llad 2full

Ian256:

This is what the data looks like for a trade message, not all the info is needed.

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          "streamingModeNickName": "Barbarian#11115145",
          "karmaRating": -2,
          "rankId": "LeaderboardRankData:Id_LeaderboardRank_Voyager_II",
          "fame": 477,
          "nameplateSkinId": "NameplateSkinData:Id_NameplateSkin_RuinsExplorer",
          "rankIconType": 1,
          "adventureRankId": "LeaderboardRankData:Id_LeaderboardRank_Voyager_II",
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                {
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                }
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              "sp": [
                {
```

```json
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              "pid": "Effect_UndeadDamageMod",
              "pv": 22
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            {
              "pid": "Effect_Agility",
              "pv": 2
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            {
              "pid": "Effect_MemoryCapacityAdd",
              "pv": 3
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          "se": []
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