

## Overall comparison 2

Model	Dataset	LoRA / Adapter	Domain Prefix	Class Weights	Accuracy	Macro F1	Weighted F1
SFT1	MIX (BIO+FIN)	No	No	Yes	<b>0.7884</b>	0.6545	0.6545
SFT2	BIO (drug)	No	No	No	<b>0.5900</b>	0.5893	0.5893
SFT3	FIN (news)	No	No	Yes	<b>0.7260</b>	0.6857	0.7325
SFT4	MIX (BIO+FIN)	No	Yes	Yes	<b>0.6450</b>	0.6374	0.6467
SFT5	BIO (drug)	LoRA	No	No	<b>0.5693</b>	0.5694	0.5694
SFT6	FIN (news)	LoRA	No	Yes	<b>0.7364</b>	0.6974	0.7387
SFT7	MIX (BIO+FIN)	LoRA	Yes	Yes	<b>0.6375</b>	0.6302	0.64114

Model	LoRA	Training Setup	Eval Set	FIN Acc	FIN Macro F1	BIO Acc	BIO Macro F1
<b>SFT2</b>	No	BIO	BIO	–	–	<b>0.5513</b>	0.5521
<b>SFT3</b>	No	FIN	FIN	<b>0.7260</b>	0.6857	–	–
<b>SFT8</b>	No	FIN → BIO	MIX	<b>0.3993</b>	0.3801	<b>0.5593</b>	0.5599
<b>SFT9</b>	Yes	FIN → BIO	MIX	<b>0.4613</b>	0.4182	<b>0.5400</b>	0.5419

## Zero Shot testing on Game review dataset

Model	Zero-shot Dataset	N	Accuracy	Macro F1	Weighted F1
SFT4 (No Adapter)	GAME	5000	0.5852	0.5186	0.6062
SFT7 (LoRA)	GAME	5000	0.5486	0.5013	0.5788

## Per Domain

Domain	SFT4 (No Adapter) Acc / Macro F1	SFT7 (LoRA) Acc / Macro F1
FIN	<b>0.735048 / 0.695242</b>	<b>0.7413 / 0.6974</b>
BIO	<b>0.568 / 0.56520</b>	<b>0.538 / 0.5321</b>

## ZEROSHOT

### SFT4

==== Zero-shot on GAME (N=5000) ====

Overall accuracy: 0.5852

Overall macro F1: 0.5186

Overall weighted F1: 0.6062

### SFT7

==== Zero-shot on GAME (N=5000) ====

Overall accuracy: 0.5486

Overall macro F1: 0.5013

Overall weighted F1: 0.5788

## Takeaway

**Strongest financial model:**

- **SFT6 (FIN + LoRA)** slightly beats **SFT3 (FIN, no LoRA)**
  - Acc: 0.7364 vs 0.7260
  - Macro F1: 0.6974 vs 0.6857

**BIO models:**

- **SFT2 (no adapter) > SFT5 (LoRA)**
  - Acc drops from 0.5513 → 0.5340 when adding LoRA.

**Mixed-domain models (MIX BIO+FIN):**

- **SFT4 (no adapter) > SFT7 (LoRA)**
  - Overall acc: 0.6300 → 0.6013
  - FIN domain acc: 0.7360 → 0.7073
  - BIO domain acc: 0.5240 → 0.4953

## Raw Stats

**SFT2\_bio\_without\_adapter:**

Config:

```
"learning_rate": 3e-5,  
"batch_size": 16,  
"num_epochs": 3,  
"weight_decay": 0.01,
```

Dataset:

drug\_review

Weighted\_class:

No. Since the data has already balanced

Domain\_prefix:

No

Results:

Accuracy: : 0.5513

Macro F1: : 0.5521

Weighted F1: : 0.5521

## **SFT3\_financial\_without\_adapter:**

Config:

```
"learning_rate": 3e-5,  
"batch_size": 16,  
"num_epochs": 3,  
"weight_decay": 0.01,
```

Dataset:

financial\_review

Weighted\_class:

Yes

Domain\_prefix:

No

Results:

Accuracy: 0.7260

Macro F1: 0.6857

Weighted F1: 0.7325

## **SFT4\_mix\_without\_adapter:**

Config:

```
"learning_rate": 3e-4,  
"batch_size": 16,  
"epochs": 3,  
"use_lora": False,  
"use_class_weights": True,
```

Dataset:

Mixed with drug\_review and financial\_review

Weighted\_class:

Yes

Domain\_prefix:

Yes

Result:

Accuracy: 0.6300

Macro F1: 0.6221

Weighted F1: 0.6345

Domain: FIN

Accuracy: 0.7360

Macro F1: 0.6897

Domain: BIO

Accuracy: 0.5240

Macro F1: 0.5231

## SFT5\_Bio\_with\_adapter:

config:

"learning\_rate": 1e-4,

"batch\_size": 16,

"epochs": 10,

"use\_lora": True,

"use\_class\_weights": True,

# LoRA config (you can tweak these)

"lora\_r": 64,

"lora\_alpha": 128,

"lora\_dropout": 0.1,

Dataset:

drug\_review

Weighted\_class:

Yes

Result:

Accuracy: 0.5340  
Macro F1: 0.5339  
Weighted F1: 0.5339

## SFT6\_financial\_with\_adapter:

config:  
"learning\_rate": 1e-4,  
"batch\_size": 16,  
"epochs": 10,  
  
"use\_lora": True,  
"use\_class\_weights": True,  
  
# LoRA config (you can tweak these)  
"lora\_r": 64,  
"lora\_alpha": 128,  
"lora\_dropout": 0.1,

Dataset:  
Financial\_news

Weighted\_class:  
Yes

Result:  
Accuracy: 0.7364  
Macro F1: 0.6974  
Weighted F1: 0.7387

## SFT7\_mix\_with\_adapter

Config:  
"learning\_rate": 1e-4,  
"batch\_size": 16,  
"epochs": 10,  
  
"use\_lora": True,  
"use\_class\_weights": True,  
  
# LoRA config

"lora\_r": 64,  
"lora\_alpha": 128,  
"lora\_dropout": 0.1,

Dataset:  
Mixed with drug\_review and financial\_review

Weighted\_class:  
Yes

Domain\_prefix:  
Yes

Accuracy: 0.6013  
Macro F1: 0.5873  
Weighted F1: 0.6039

Domain: FIN  
Accuracy: 0.7073  
Macro F1: 0.6370

Domain: BIO  
Accuracy: 0.4953  
Macro F1: 0.4956