**Stakeholder Discussion Summary**

**Network Layers & Hyperparameters - Zhao, CEO**

The model uses 2 hidden layers:

64 neurons (ReLU) → Dropout (0.2)

32 neurons (ReLU)

If results are poor, the most impactful hyperparameters to tune are:

🔹 Number of neurons and hidden layers

🔹 Learning rate and optimizer

Epochs and batch size may help but are secondary.

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**Feature Engineering - Johnny, Intern**

Temperature is already separated into:

temp\_c (raw air temp)

feels\_like\_c (adjusted for humidity/wind)

This lets the model learn how “real feel” differs from actual conditions, for which, both are useful.

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**Learning Rate - Zhao, CEO**

We’re using a learning rate of 0.001 with Adam optimizer.

In future tuning:

We can use a learning rate finder or a scheduler to dynamically adjust during training for improved convergence.

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**Loss Function & Model Performance - Johnny, Intern**

Loss Function: Mean Squared Error (MSE) — standard for regression.

Metric: Mean Absolute Error (MAE) for intuitive interpretability.

To judge predictive power:

Review R² score and the loss/validation curves. Smooth and aligned loss curves between the training loss and validation loss suggest a well-fit model without overfitting.

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**Predictive Risk Model Ethics - William, Investment Banker**

✅ We recommend avoiding sensitive user profile features (e.g., name, gender, birthday) to prevent bias or legal issues.

✅ Instead, use real-time behavioral data (GPS, speed, braking) if available.

❌ Using protected attributes like sex or address may raise ethical and regulatory concerns.

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**Pandemic & Health Monitoring - Zhao, CEO**

Add flags in the model for:

Day of the week

Season

Peak vs. off-peak hours

This lets us predict spikes in rentals and recommend:

Disinfection cycles during lunch hours or late evenings on high-traffic days (e.g., weekends, holidays).

Trend analysis shows:

Some pandemic effect lingered into early 2021, but by 2022, rentals normalized.

We are likely back on track by 2023–2024.