Ethical concerns in AI and machine learning include issues like bias in algorithms, data privacy, and job displacement due to automation, and the responsible use of AI in areas like healthcare and law enforcement. It's important to address these concerns to ensure that AI benefits society as a whole.

Machine learning is a subfield of AI that focuses on developing algorithms and models that allow computers to learn from and make predictions or decisions based on data. It's a crucial component of AI because it enables systems to improve their performance over time by learning from past experiences.

There are three main types of machine learning:

1. **Supervised Learning**: In this type, the model is trained on labeled data, making predictions based on that data. Examples include regression and classification.
2. **Unsupervised Learning**: This involves finding patterns or structures in data without specific guidance. Clustering and association rule mining are examples of unsupervised learning.
3. **Reinforcement Learning**: This is about training agents to make sequences of decisions to maximize a reward in an environment. The agent learns through trial and error.

Machine learning has a wide range of applications, including:

- Personalized treatment plans
- Drug discovery
- Disease diagnosis
- Healthcare assistance
- Automation in manufacturing
- Fraud detection
- Recommendation systems
- Autonomous vehicles
- Facial recognition
- Image and video analysis
- Sentiment analysis
- Chatbots

Here is an example of Python code for a simple machine learning model using the popular scikit-learn library:

```python
# Import the necessary libraries
from sklearn import datasets
from sklearn.metrics import mean_squared_error
from sklearn import linear_model

# Load a sample dataset (e.g., the Boston Housing dataset)
data = datasets.load_boston()
X = data.data
y = data.target

# Split the data into training and test sets
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2, random_state=42)

# Train the model on the training data
model = linear_model.LinearRegression()
model.fit(X_train, y_train)

# Make predictions on the test data
y_pred = model.predict(X_test)

# Calculate the mean squared error to evaluate the model
mse = mean_squared_error(y_test, y_pred)
print (f"Mean Squared Error : {mse}")
```

AI has a wide range of applications, including:

- Financial market analysis
- Risk assessment
- Fraud detection
- Personalized treatment plans
- Drug discovery
- Disease diagnosis
- Healthcare assistance
- Automation in manufacturing