



**Bangladesh University of Business and Technology**

## **Noise Removing from Continuous Signal Using FFT**

Course Name-Digital Signal Processing (Lab)

Course Code – EEE314

**Team - “KINETIC VISION”**

# MEET TEAMMATES of “Kinetic Vision”



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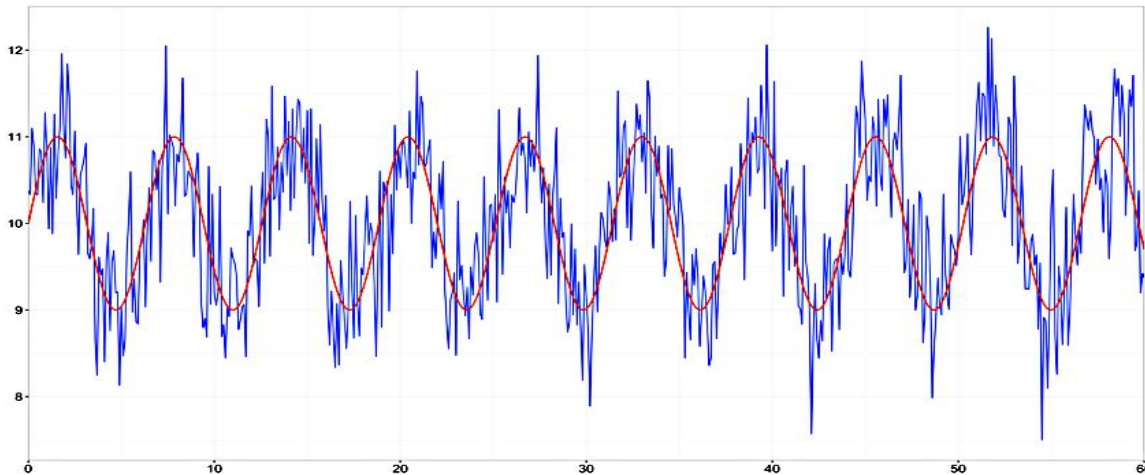
# AGENDA



1	Introduction
2	Result and Explanation
3	Social Economy impact
4	Conclusion

# INTRODUCTION

❖ In this project we have taken a continuous signal and then we have added noise with it and then we have removed that noise from that signal.



# OBJECTIVES

This project helps us -

- To know about the MATLAB and how we can use it in any signal related work
- To know about the working procedure of MATLAB
- To know about the different kinds of command
- How we can generate any signal in MATLAB
- To know about how we can add noise and how we can remove the noise from the signal

# CODE EXPLANATION

```
Clc
clear all
close all

t=0:0.01:2*pi;

x=sin(t)+sin(2*t);

subplot(2,2,1);
plot(t,x);

title('Original signal');
xlabel('Time');
ylabel('Amplitude');

n=rand(1,length(t));

x=x+n;

subplot(2,2,2);
plot(t,x);
title('Noise corrupted signal');
xlabel('Time');
ylabel('Amplitude');

g=fft(x);

subplot(2,2,3);
plot(abs(g));

title('Magnitude part of fft');
xlabel('Time');
ylabel('Amplitude');
```

# CODE EXPLANATION

```
f=find(abs(g)<50);
```

```
g(f)=zeros(size(f));
```

```
w=ifft(g);
```

```
subplot(2,2,4);
```

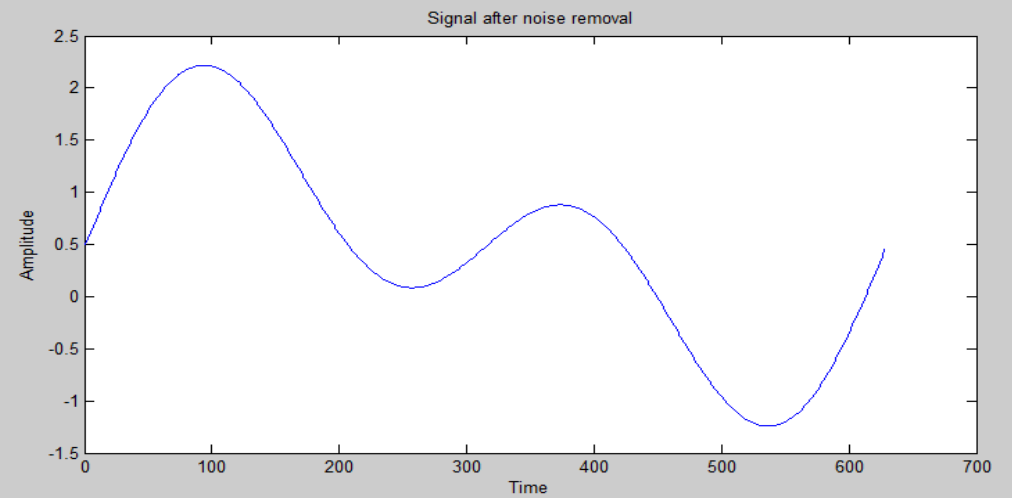
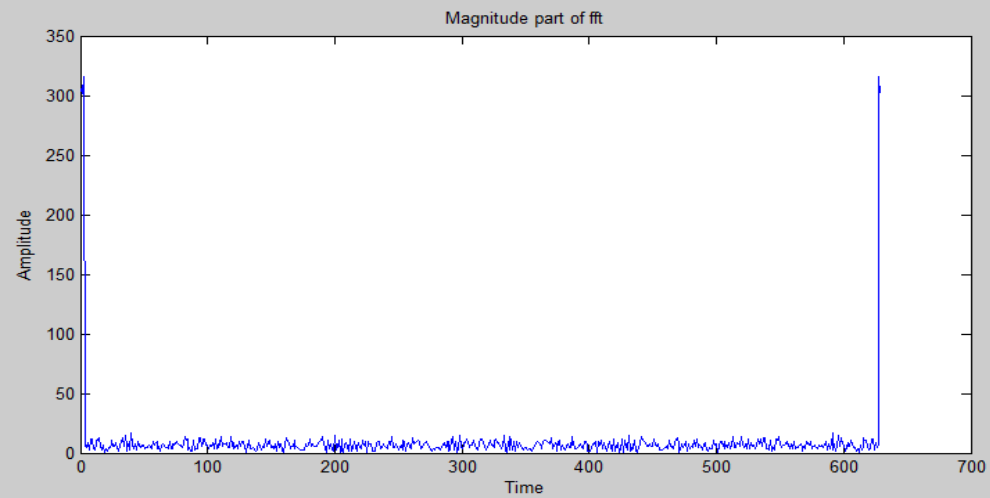
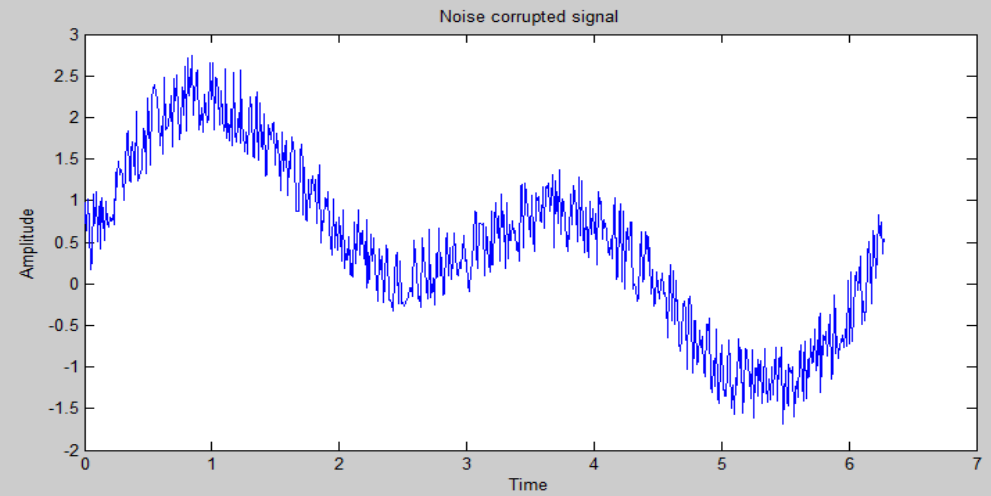
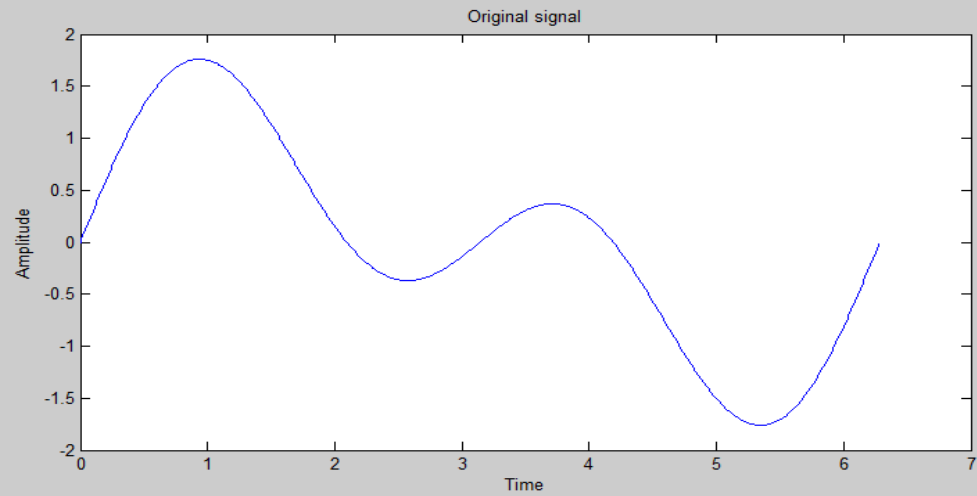
```
plot(w);
```

```
title('Signal after noise  
removal');
```

```
xlabel('Time');
```

```
ylabel('Amplitude');
```

# RESULT





# SOCIAL ECONOMY IMPACT



- The impact of noise removal from signals can have significant social and economic implications, influencing various industries and aspects of daily life.

## Application

**Communication and Telecommunications:**

**Energy Sector**

**Automotive Industry**

**Environmental Monitoring:**

# **FUTURE PLAN**

1

**Machine Learning and Deep Learning**

2

**Adaptive and Self-Learning Systems**

4

**Real-time Noise Estimation and Removal**

5

**Real-time Noise Estimation and Removal**

6

**Integration with Sensor Technologies**

7

**Multi-sensor Fusion for Noise Reduction**

**What**

**We**

**Can**

**Do**

**Next**

# CONCLUSION

- ❖ The process of noise removal from signals plays a pivotal role in various fields, offering substantial benefits in terms of data accuracy, decision-making, and overall system performance.



