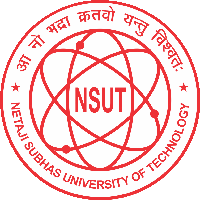
**CONTROL SYSTEMS**

**MINI PROJECT**

**BACHELORS OF TECHNOLOGY**

(Electronics & Communication)



**Netaji Subhas University of Technology, East Campus**

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***Submitted By :***

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***5th Semester***

***EXPERIMENT – 10***

***AIM :-*** *Speech Recognition Using Correlation Method*

***THEORY :***

***SOFTWARE USED :*** *MATLAB R2021a*

***PROGRAM :***

%Speech Recognition Using Correlation Method

clc;

close all;

Speech\_Recognition = 'test.wav'

voice=audioread(Speech\_Recognition);

x=voice;

x=x';

x=x(1,:);

x=x';

%Following is the code for the database of .wav file samples

%Test Sample

yt=audioread('test.wav');

yt=yt';

yt=yt(1,:);

yt=yt';

zt=xcorr(x,yt);

mt=max(zt);

lt=length(zt);

tt=-((lt-1)/2):1:((lt-1)/2);

tt=tt';

subplot(3,2,6);

plot(tt,zt,'r');

title(Speech\_Recognition);

%First Sample

y1=audioread('one.wav');

y1=y1';

y1=y1(1,:);

y1=y1';

z1=xcorr(x,y1);

m1=max(z1);

l1=length(z1);

t1=-((l1-1)/2):1:((l1-1)/2);

t1=t1';

subplot(3,2,1);

plot(t1,z1);

title('Sample-1');

%Second Sample

y2=audioread('two.wav');

y2=y2';

y2=y2(1,:);

y2=y2';

z2=xcorr(x,y2);

m2=max(z2);

l2=length(z2);

t2=-((l2-1)/2):1:((l2-1)/2);

t2=t2';

subplot(3,2,2);

plot(t2,z2);

title('Sample-2');

%Third Sample

y3=audioread('three.wav');

y3=y3';

y3=y3(1,:);

y3=y3';

z3=xcorr(x,y3);

m3=max(z3);

l3=length(z3);

t3=-((l3-1)/2):1:((l3-1)/2);

t3=t3';

subplot(3,2,3);

plot(t3,z3);

title('Sample-3');

%Fourth Sample

y4=audioread('four.wav');

y4=y4';

y4=y4(1,:);

y4=y4';

z4=xcorr(x,y4);

m4=max(z4);

l4=length(z4);

t4=-((l4-1)/2):1:((l4-1)/2);

t4=t4';

subplot(3,2,4);

plot(t4,z4);

title('Sample-4');

%Fifth Sample

y5=audioread('five.wav');

y5=y5';

y5=y5(1,:);

y5=y5';

z5=xcorr(x,y5);

m5=max(z5);

l5=length(z5);

t5=-((l5-1)/2):1:((l5-1)/2);

t5=t5';

subplot(3,2,5);

plot(t5,z5);

title('Sample-5');

m6=300;

a=[m1 m2 m3 m4 m5 m6];

m=max(a);

h=audioread('allow.wav');

if m<=m1

soundsc(audioread('one.wav'),50000)

soundsc(h,50000)

elseif m<=m2

soundsc(audioread('two.wav'),50000)

soundsc(h,50000)

elseif m<=m3

soundsc(audioread('three.wav'),50000)

soundsc(h,50000)

elseif m<=m4

soundsc(audioread('four.wav'),50000)

soundsc(h,50000)

elseif m<m5

soundsc(audioread('five.wav'),50000)

soundsc(h,50000)

else

soundsc(audioread('denied.wav'),50000)

end

***OUTPUT :***