Date:- 28/5/2020 Name:- Poojary Sushant

Course:- Digital signal processing USN:- 4AL18EC400

Topic :- Introduction to FS & FT Semester:- 6th sem 'B' sec

continous $X(F) = \int_{-\infty}^{\infty} x(t)\, e^{-j2\pi FT}\, dt$

($x(t)$: function; $e^{-j2\pi FT}$: analysing function: sinusoids)

$$Xa(F) = \int_{-\infty}^{\infty} x(t) \cos 2\pi ft\, dt, \quad Xb(F) = \int_{-\infty}^{\infty} x(t) \sin 2\pi Ft\, dt$$

discrete $$Xk = \sum_{n=0}^{N-1} x_n \cdot e^{-\frac{j2\pi kn}{N}}$$

$$Xk = x_0 e^{-b_0 j} + x_1 e^{-b_1 j} + \ldots x_n e^{-b_{N-1} j}$$

Euler's formulas:

$$e^{jx} = \cos x + j \sin x$$

$$Xk = x_0[\cos(-b_0) + j\sin(-b_0)]$$

Fourier series $$f(x) = \frac{A_0}{2} + \sum_{k=1}^{\infty} \left(A_k \cos(kx) + B_k \sin(kx)\right)$$

$$\langle f(x), g(x) \rangle = \int_a^b f(x)\, \bar{g}(x)\, dx$$

$$f \cdot g\, \Delta x = \sum_{k=1}^{n} f(x_k)\, \bar{g}(x)\, \Delta x$$

$$\langle \phi_j, \phi_k \rangle = \int_{-\pi}^{\pi} e^{ijx} e^{-jkx}\, dx = \int_{-\pi}^{\pi} e^{j(j-k)x}\, dx = \frac{1}{i(j-k)} \left\{ e^{j(j-k)x} \right\}_{-\pi}^{\pi}$$

0 if $j \neq k$

0 if $j = k$

Fourier series using matlab

```
clear all
close all
clc
figure
set(gcf,'position',[1500 200 2000 1200])
%% define domain
L= pi;
N= 1024
dx = 2*L/(N-1);
x = L:dx:L;
%% define hat function
f = 0*x;
f(N/4:N/2) =4*(1:N/4+1)/N;
f(N/2+1:3*N/4) =1-4*(0:N/4-1)/N;
plot(x,f,'-k','Linewidth',3.5) hold on
%% compute fourier series
CC= jet(20)
A0= sum(f.*ones(size(x)))*dx/pi;
fFS= A0/2
for k=1:20;
    A(k) = sum(f.*cos(pi*k*x/L))*dx/pi;
B(k) =sum(f.*sin(pi*k*x/L)dx/pi;
fFs =fFS + A(k)*cos(k*pi*x/L)+B(k)*sin(k*pi*x/L);
plot(x,fFS,'-','color',CC(k,:),'Linewidth',2)
pause(.1)
end
%%% plot amplitudes
figure;
set(gcf,'position',[1500 200 2000 1200])
```

```
clear ERR
clear A
fFs = A0/2;
A(1) = A0/2/pi;
ERR(1)norm (f-FFS);
kmax = 100;
for k=1:kmax
   A(k+1) =sum(f.*cos(pi*k*x/L))*dx;
   B(k+1) =sum(f.*sin(pi*k*x/L))*dx;
   fFs = fFs+A(k+1)*cos(k*pi*x/L)+B(k+1)*sin(k*pi*x/L);
   ERR(k+1 = norm (f-FFs)/norm(f);
end
thresh= median(ERR)*sqrt(kmax)*4/sqrt(3);
r = max(find(ERR>thresh));
r=7;
subplot(2,1,1)
semilogy(0:1:kmax,A,'k','linewidth',1.5)
hold on
semilogy(r,A(r+1),'co','Linewidth',15,'marker FaceColor','c')
xlim([0 kmax])
xlim([10^(-7),1])
ylabel('Mode Amplitude','Fonsize',16)
subplot(2,1,2)
semilogy(0:1:kmax,ERR,'k','Linewidth',1.5)
hold on
semilogy(r,ERR(r+1),'co',Linewidth',15,'Marker Face Color','c')
xlabel('Mode Number,k','Fontsize',16)
ylabel('Reconstruction Error','Fontsize',16)
```

Fourier series and Gibbs phenomena [Matlab]

```
clear all
close all
l = 2*pi
N = 1024
dx = 1024
x = 0:dx:l
f = zeros(size(x))
f = (256:768) = 1
figure
set(gcf,'position',[1500 200 2000 1000])
fFs = zeros(size(x));
A0 = (1/pi)*sum(f.*ones(size(x)))*dx;
for m = 1:100
    fFs = A0/2;
    for k = 1:m
     Ak = (1/pi)*sum(f.*cos(2*pi*k*x/l))*dx;
     Bk = (1/pi)*sum(f.*sin(2*pi*k*x/l))*dx;
     fFs = fFs+Ak*cos(2*k*pi*x/l)+Bk*sin(2*k*pi*x/l
    end
  plot(x,f,'k','LineWidth',2)
  hold on
   plot(x,fFs,'k','LineWidth',1.5)
   pause(0.1)
end
```

Date 25 May 2020 Name: Poojary Sushant

course Python on udemy USN 4AL18EC400

Topic: Fixing Programing Error website blocker semester: 6th sem BSe

Report

```
import time
from datetime import datetime as dt

hosts_temp = r"D:\Dropbox\pp\block_website\Demo\hosts"
hosts_path = "/etc/hosts"
redirect = "127.0.0.1"
website_list = ["www.facebook.com", "facebook.com", "dub119.mail.
        live.com", "www.dub119.mail.live.com"]

while True:
    if dt(dt.now().year, dt.now().month, dt.now().day, 8) < dt.
now() < dt(dt.now().year, dt.now().month, dt.now().day, 16):
        print("working hours....")
        with open(hosts_path, 'r+') as file
            content = file.read()
            for website in content
                pass
            else:
                file.write(redirect + " " + website + "\n")

else
    with open(hosts_path, 'r+') as file:
        content = file.readlines()
        file.seek()
        for line in content:
            if not any(website in line for website in website
                    _list):
```

```
file.write(line)
file.truncate()
print("Fun hours...")
time.sleep(5)
```

✔ **What you know**

What would the following code generate? mydict = ["name":"John", "surname":"Smith"] print(mydict)

Here's one more challenge. What would the code generate this time? a = [1, 2, 3)

What would the below code output?print(John)

✕ **What you should review**

What would you get this time? mylist = [John, Jack, Jim] print(mylist)

alvas-education-foundation / ECE-3year-Code-Challenge

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Congratulations

Code is fine

Browse files

master

parveez1shariff committed 19 hours ago Verified 1 parent 0fd710d commit 51cd9eefcc065ce60e0c3163cf187533181ea396

Showing 1 changed file with 3 additions and 1 deletion.

Unified | Split

4 sushant_4al18ec400.py

```
@@ -18,4 +18,6 @@
18  18          print('Invalid username or password')
19  19          trial+=1
20  20      if trial==3:
21      -          print('Account locked')
    21  +          print('Account locked')
    22  +
    23  +          # Very good, your code is working fine
```