AMATH 582 Homework 1

Your Name

January 24, 2020

Abstract

Add your abstract here.

1 Introduction and Overview

Add your introduction and overview here.

1.1 Subsection Title

This is a subsection.

1.1.1 Subsubsection Title

This is a subsubsection.

2 Theoretical Background

Add your theoretical background here. Some example text: As we learned from our textbook [**kutz˙2013**], Fourier introduced the concept of representing a given function $f(x)$ by a trigonometric series of sines and cosines:

$$f(x) = \frac{a_0}{2} + \sum_{i=1}^{\infty} (a_n \cos nx + b_n \sin nx) \quad x \in (-\pi, \pi]. \tag{1}$$

You can reference numbered equations, figures, tables, algorithms, and code like this: Equation 1, etc.

3 Algorithm Implementation and Development

Add your algorithm implementation and development here. See Algorithm 1 for how to include an algorithm in your document. This is how to make an *ordered* list:

1. Fluffy swallowed a marble.
2. I took Fluffy to the vet.
3. They took an ultrasound of Fluffy's intestines.

4 Computational Results

Add your computational results here. See Table 1 for how to include a table in your document. See Figure 1 for how to include figures in your document.

Algorithm 1: Example Algorithm

```
Import data from Testdata.mat
for j = 1 : 20 do
    Extract measurement j from Undata
    Do something useful
end for
if i ≥ 5 then
    i ← i − 1
else
    if i ≤ 3 then
        i ← i + 2
    end if
end if
```

	Name	Years
1	Frosty	1922-1930
2	Frosty II	1930-1936
3	Wasky	1946
4	Wasky II	1947
5	Ski	1954
6	Denali	1958
7	King Chinook	1959-1968
8	Regent Denali	1969
9	Sundodger Denali	1981-1992
10	King Redoubt	1992-1998
11	Prince Redoubt	1998
12	Spirit	1999-2008
13	Dubs I	2009-2018
14	Dubs II	2018-Present

Table 1: UW mascots as described in [**washington˙huskies**].

5 Summary and Conclusions

Add your summary and conclusions here.

Appendix A MATLAB Functions

Add your important MATLAB functions here with a brief implementation explanation. This is how to make an **unordered** list:

- `y = linspace(x1,x2,n)` returns a row vector of `n` evenly spaced points between `x1` and `x2`.
- `[X,Y] = meshgrid(x,y)` returns 2-D grid coordinates based on the coordinates contained in the vectors `x` and `y`. X is a matrix where each row is a copy of `x`, and `Y` is a matrix where each column is a copy of `y`. The grid represented by the coordinates `X` and `Y` has `length(y)` rows and `length(x)` columns.

Appendix B MATLAB Code

Add your MATLAB code here. This section will not be included in your page limit of six pages.
[h] matlabexample.m Example code from external file.