

## **ISML Site Documentation**

### **Site Maintainance:**

The site is maintained using Github Desktop, via pushes and pulls on the site repository. A tutorial can be found in the link below:

*"Learn how to set up, authenticate, and configure GitHub Desktop to allow you to contribute to projects directly from your machine"*: <https://docs.github.com/en/desktop/installing-and-configuring-github-desktop/overview/getting-started-with-github-desktop>

### **Site Hosting:**

The site is hosted on github. If the site needs to be hosted on a different github account, such as the university account, all the files on the old repositories can be copied to the new one. The host can then follow the tutorial below to host the new repository as a website:

*"Steps for Hosting a Website on GitHub"*: <https://gist.github.com/TylerFisher/6127328>

## **HTML Header and CSS:**

Each html page has a head/header portion that contains codes for specifying page properties. There is a link to an external css file, a title that specifies web page title when viewed from a browser, and a mobile device scaling instruction.

The pages are built using html and css. Structures and organization are provided by html pages, while the css provides styling. Each html header contain a reference link to an external css file.

Example of css reference in the header:

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1//EN"
"http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
  <!-- Head: -->
  <head>

    <!-- Link to CSS -->
    <link rel="stylesheet" href="ExternalStyle.css">

    <!-- Page bar title: -->
    <title>
      AU ISML Cluster
    </title>

    <!-- Mobile device scaling: -->
    <meta name="viewport" content="width = device-width, initial-scale = 1">
  </head>

  <!-- Body: -->
  <body>
    <!-- Header: -->
    <div class="header">
      <h1>
        <img src= "Img/AU_Logo_Horiz.jpg" class="img_Standalone_Small">
        Intelligent Systems and Machine Learning
      </h1>
    </div>
```

## HTML Body Structure:

The body contains actual web page contents. Website elements are organized under divisions, implemented as <div>, as shown in the example below.

The header element is highlighted in red:

**Description**

An intelligent system (IS) is a tool that operates in a real world, possesses primary cognitive abilities such as perception, action control, reasoning, or language use, and exhibits intelligent behavior supported by abilities such as rationality, adaptation through learning, or the ability to explain the use of its knowledge by introspection. Currently there is strong industrial demand for people who understand intelligent systems technology and know how to apply it to real-world problems.

Intelligent systems are poised to fill a growing number of roles in today's society, including factory automation, field and service robotics, assistive robotics, military applications, medical care, education, and intelligent transportation. The emergence and continued reliance on the Internet and related technologies has resulted in the generation of large amounts of data that can be made available for analyses. However, humans do not possess the cognitive capabilities to understand such large amounts of data. Machine learning (ML) provides a mechanism for humans to process large amounts of data, gain insights about the behavior of the data, and make more informed decision based on the resulting analysis.

**Vision**

Header code:

```
<!-- Mobile device scaling: -->
<meta name="viewport" content="width = device-width, initial-scale = 1">
</head>

<!-- Body: -->
<body>
    <!-- Header: -->
    <div class="header">
        <h1>
            <img src= "Img/AU_Logo_Horiz.jpg" class="img_Standalone_Small">
            Intelligent Systems and Machine Learning
        </h1>
    </div>

    <hr>

    <div class="mid">
        <div class="pageSplitter_SideBar_Content">
            <div class="sideBar">
                <div class="sideBarBackground">
                    <table class="tableDiv_100">
                        <tr>
```

Elements which are `<div>` can be nested under other `<div>`, based on their visual structure. In the example below, the side bar and page content divisions are both nested under body. This provides a way to specify `<div>` classes, for further css styling.

The side bar element is highlighted in red, while the page content is in green:

**Description**

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**Vision**

The ISML cluster of FST seeks to provide a collaborative and supportive research environment for faculty and students in undergraduate and master programs and to create an environment for learner-focused approach of the teaching to equip our students with advanced ISML research and development techniques.

Side bar and page content codes:

```
<!-- Header: -->
<div class="header">
  <h1>
    <img src= "Img/AU_Logo_Horiz.jpg" class="img_Standalone_Small">
    Intelligent Systems and Machine Learning
  </h1>
</div>

<hr>

<div class="mid">
  <div class="pageSplitter_SideBar_Content">
    <div class="sideBar">
      <div class="sideBarBackground">=
        </div>
    </div> <!-- End side bar -->

    <div class="pageContent">=
      </div>
    </div>
  </div>
<hr>

<!-- Footer: -->
<div class="footer">
  <div class="tableDiv_10">
```

## CSS Sheet:

ExternalStyle.css contains styling properties for all html classes. It can also be used as a reference for all html classes; comments in the css should describe which elements are being styled. Ideally each element, such as a <div> or <table>, in the pages would have an associated class, and the class style would be described in the css sheet. Further works on the pages should continue to do this, so css styling can be applied uniformly.

Developers should be aware of the default classes. These are highlighted in red. They can conflict with more specific classes. Ideally they are used to describe very general elements, such as all the links on a page. If there is a need for a specially styled link, then the general class "a {}" in css should be deleted; afterward, specific <a class=customLink> in html and ".customLink {}" in css should be implemented.

An example of visual appearance, html structure, and css styling is described below.

Link as shown:

The screenshot shows a website for 'Intelligent Systems and Machine Learning'. At the top is the Athabasca University logo. Below it is the title 'Intelligent Systems and Machine Learning'. A sidebar on the left contains links: 'ISML Home' (highlighted with a red box), 'Researchers', 'Students', 'Current Projects', 'Recent Publications', 'Internal Communications', and 'Partner Institutions'. The main content area has a heading 'Description' and two paragraphs of text about intelligent systems and machine learning.

HTML implementation:

```
<div class="mid">
<div class="pageSplitter_SideBar_Content">
<div class="sideBar">
<div class="sideBarBackground">
<table class="tableDiv_100">
<tr>
<th>
<a href="IMSL_Home.html"> <div class="a_Backbound"> ISML Home </div> </a>
</th>
</tr>
<tr>
<th>
<a href="IMSL_Researchers.html"> <div class="a_Backbound"> Researchers </div> </a>
</th>
</tr>
<tr>
<th>
<a href="IMSL_Students.html"> <div class="a_Backbound"> Students </div> </a>
</th>
</tr>
```

CSS styling of class a{}, which represents the link text, and class .a\_Background, which represents the blue area behind the link text:

```
/* Default class for all Links. */
a {
    font-family: "Serif", University, monospace;
    font-size: 100%;
    font-weight: bold;
    text-decoration: none; /* No underline. */
    color: darkgreen;
    text-align: center;
    height: 100%;
}

/* Style for the background of all Links. */
.a_Background{
    height: 100%;
    background-color: lightblue;
    display: flex;
    align-items: center;
    justify-content: center;
}
```