SYSTOPIA

WEBSITE USAGE GUIDELINES

A walkthrough for updating content on the SYSTOPIA website.
Alternatively, check the README.

Some basic information

General Overview

- We made the site using Bootstrap and Jekyll
- Content is primarily contained within YAML files located in `_data/`
  - The syntax of the text in the YAML files is important
- If in doubt, check the README

Some basic information

Getting Started

- Install Ruby/RubyGems

```
gem install bundler jekyll
bundle install
```

- Run with `bundle exec jekyll serve --config _config.yml`
  - You can view the site at `http://localhost:4000`
- Please double check your work before pushing to master!

Some basic information

Files You Can Probably Ignore

- Most things contained in:
    - `_includes/` - layout components, such as the header, navbar, and photo carousel
    - `_layouts` - layout files for the site theme
    - `_site/` - the generated site
    - `css/`- stylesheets for the site theme/bootstrap
- You **might** upload images to `assets/`, but you'll mostly leave this alone.

Some basic information

Files You Will Probably Edit

- Contained within `_data/`
    - `people.yml` - Faculty/PostDoc/Student profiles
        - `alumni.yml` - Faculty/PostDoc/Student alumni profiles
    - `news.yml` - SYSTOPIA news
    - `publist.yml` - Publications
    - `research-topics.yml` - Research topics/areas
- You will also probably create new research project pages in `_posts/`

Getting into the weeds

What I Will Cover More Exhaustively

- Adding a new Faculty/Postdoc/Student Profile

- Updating the Research page with new research areas/topics and research project pages

A step-by-step walkthrough

Adding a New Profile

1. Add your picture to `assets/images/profiles`

2. Edit the file `_data/people.yml`

    - Individuals are split up into Faculty, Postdocs, PhDs, MSCs, and Visitors.

    - Use the following syntax:

```
- name: Jane Shepard
  info: “Biotics/nShotguns”
  link: https://masseffect.com
  img: jane.jpg
```

A step-by-step walkthrough

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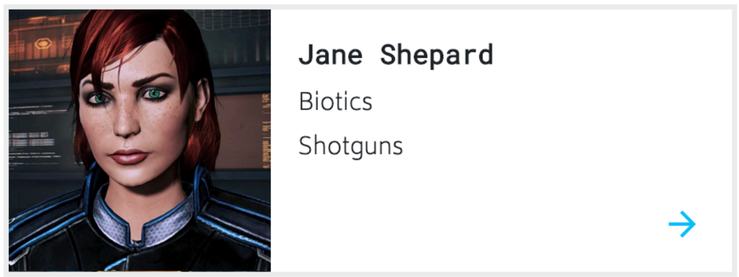

The code as it appears in the wild

Adding a New Profile

```yaml
# NOTES
# Individuals have been split up into sections "FACULTY", "POSTDOCS", "PHDS", "MSCS", and "VISITORS"
# Research interests/areas of focus should be put under "info"
# To insert line breaks in the "info" section of any individual, place the text in within a " " and insert \n wherever you need a line break.
# Where applicable, include the full URL to any individual's personal page in "link".  If they do not have a personal page, leave that space blank or input a "#
# Please upload profile photos to the directory "/assets/images/profiles", then input the exact file name and extension under "img"

# FACULTY
faculty:
  - name: Bill Aiello
    info: In Loving Memory
    link: https://www.cs.ubc.ca/people/bill-aiello
    img: bill.jpg

  - name: Ivan Beschastnikh
    info: "Distributed systems\nNetworks\nSoftware engineering"
    link: http://www.cs.ubc.ca/~bestchai/
    img: ivan.jpg

  - name: Mike Feeley
    info: "Distributed systems\nOperating systems"
    link: http://www.cs.ubc.ca/~feeley/
    img: mike.jpg
```

A more detailed walkthrough

Adding a New Research Area/Topic

1. Create a new research topic by adding the following lines to `_data/research-topics.yml`

```
- topic:
  description:
  tag:
```

A step-by-step walkthrough

Adding a New Research Project

1. Create a new research project by creating a new markdown (.md) file in `_posts/`

2. Paste the template from the README file into the new post

    - The markdown file has frontmatter (enclosed in triple hyphens) at the top of the template, followed by regular HTML.

    - The post frontmatter formats the heading at the top of the page

    - The HTML content under the frontmatter can be edited as you see fit.

Editing the post frontmatter

Adding a New Research Project

```
---
layout: post
post date: YYYY-MM-DD HH:MM:SS
tags: Specify which research area(s) this project falls under
headerimg: If desired, a project header image
permalink: Set a permalink for the post
topic: Project subtitle (appears in smaller text above the project title)
heading: Project title
description: Short description of project, enclosed in quotation marks
---
```

Frontmatter vs. HTML content

Adding a New Research Project

Frontmatter →

SYSTOPIA

PEOPLE RESEARCH PUBLICATIONS NEWS SEMINAR

Optimization

CORELS + OSDT

In the realm of applying systems techniques to the development of machine learning algorithms, we design data structures and computational caching strategies to find provably optimal solutions to real world instances of NP-hard problems. We build interpretable models in a supervised manner by using discrete optimization and customized data structures. Specifically, we find optimal rule lists and decision trees over categorical feature spaces with a certificate of optimality by leveraging algorithmic bounds to efficiently prune the search space.

HTML →

CORELS

Our story begins with CORELS, an algorithm for constructing Certifiably Optimal RulE Lists to perform (binary) classification on a relational dataset. Rule lists are one-sided decision trees: they give a direct classification whenever a rule's antecedent evaluates to true. You can think of them as lists composed of if-then-else statements. One rule antecedent can check for multiple features of a sample. Rule lists are useful because each step in the model's decision making process is understandable by humans, thus ensuring transparency in decision processes. CORELS finds the optimal rule list and certifies its optimality against all feasible alternatives.

We use the discrete optimization technique of branch-and-bound to eliminate large parts of the search space and turn this into a computationally feasible problem. We use different types of bounds inherent to the rules themselves, bounds based on the current best solution, and bounds based on symmetries

Frontmatter vs. HTML content

Adding a New Research Project

Currently Investigating

Research

We conduct research on a variety of topics, including operating systems, distributed systems, security, and program analysis.

Optimization

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Sed dictum ante at nisi hendrerit mattis. Donec ornare, mi nec efficitur placerat, justo tortor lobortis mauris, ut posuere mi purus ut enim. Proin sit amet varius neque, in vulputate purus. Sed pretium diam turpis, eu ullamcorper ex lacinia a. Lorem ipsum dolor sit amet, consectetur adipiscing elit.

View Optimization Projects ↓

Post frontmatter →

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Read More →

Questions So Far?

Let’s take a minute.

A less detailed walkthrough now that you know the basics

Updating other pages

- News: `_data/news.yml`
    - News items are categorized into Papers & Posters, Talks, and Internships
- Publications: `_data/publist.yml`
    - Publications are sorted by year
- Seminar: Edit directly on the SYSTOPIA wiki (`wiki.ubc.ca/NSS_Seminar`)

Some bugs you should anticipate running into

Why Is This Broken?

- Is the syntax on the YAML file correct?

- Are you using a special character (i.e. = + & # $) in the line, and if so, have you enclosed the text in quotation marks?

- ...Is there a typo?

TL;DR: Check the README

Thanks so much for tuning in! :)