

# User Manual

## ETD Navigation Following Object Detection

Aman Ahuja, Chenyu Mao, and Edward A. Fox

16 July 2023

### 1. Files

In addition to the PDF version of the ETD, there is a ZIP file with contents to allow navigation through the results of the object detection described in the dissertation.

When that ZIP file is unzipped, a directory structure results with contents as follows:

- Minimal pre-processing applied to the original ETD led to “static/files/PhD\_Final\_Aman.pdf” which is the version that was run through the object detection process.
- The directory “static/PhD\_Final\_Aman/detected\_images/” contains all the image-based elements (figures, tables, equations, etc.) extracted using the object detection process.
- The file “final.html” should be opened in a Web browser like Chrome, to support ETD navigation that leverages the detected objects.
- Browsing of this file is aided by the JavaScript files in directory “static/scripts” and the styles in directory “static/styles”.

### 2. Navigating “final.html”

When “final.html” is opened, a screen with heading “ETD Browser” appears.

The left portion of the screen indicates how the ETD is rendered through HTML, using the results of the object detection process. It also allows downloading the generated XML version of the ETD using the XML button on the top left.

The right portion of the screen shows “static/files/PhD\_Final\_Aman.pdf” as would a PDF viewer. Clicking on the “hamburger” menu in the upper left adds a window to the left that lists the chapters, and allows jumping to any chapter in the middle window.

### 3. Future Work

There are plans for improved handling of

- front-matter and back-matter, including
  - references
  - dedication
  - acknowledgments
- figures and tables
- incorporating human feedback in the parsing process