arXiview v1.0

arXiview

arXiview is a dynamic web application designed to streamline the process of searching, viewing, and managing academic papers from arXiv. It provides a user-friendly interface to browse publications, preview PDFs and figures, and generate BibTeX citations effortlessly.

Features

- **Flexible Search Capabilities:**

  - **Topic Search:** Perform fuzzy searches across article titles and abstracts. Multiple topics can be searched by separating them with commas (e.g., "quantum computing, entanglement").

  - **Author Search:** Conduct exact searches for author names to find specific publications.

- **Structured Field Browsing:**

  - Explore publications by main physics categories (e.g., Astrophysics, Condensed Matter).

  - Drill down into specific subcategories (e.g., Astrophysics of Galaxies, Materials Science) using intuitive dropdown menus.

- **Integrated Viewers:**

  - **Dynamic PDF Viewer:** Open and view PDF articles directly within the application's rightmost panel. Includes an option to open the PDF in a new browser window for a full-screen experience.

- **Dynamic Image Preview:** Preview figures and images from articles in a dedicated section in the leftmost panel. The preview window adapts its aspect ratio to the image and features a clean white background.

- **BibTeX Citation Generator:**

  - Generate BibTeX entries for research articles by simply pasting their URL (supporting both standard DOIs and arXiv DOIs).
  - Automatically fetches metadata from Crossref or arXiv's API to construct accurate BibTeX.

- **Convenient Copy Functionality:**

  - Small, discreet copy buttons are available next to the article **Title**, **Authors**, **Publisher DOI**, **arXiv DOI**, **PDF Link**, **HTML Link**, and **arXiv Link** for quick clipboard copying.
  - A dedicated "Copy BibTeX" button for the generated citation.

- **Customizable User Interface:**

  - **Dark Mode Toggle:** Switch between light and dark themes for comfortable viewing.
  - **Adjustable Display Size:** "Enlarge" and "Shrink" buttons to control the overall width of the application, optimizing for different screen resolutions (e.g., 4K, 1080p).
  - **Adjustable Font Size:** Select between Small, Medium, and Large font sizes to suit your reading preference.
  - **Font Family Selector:** Choose between Sans-serif, Serif, and Typewriter font styles for the interface.

- **Seamless User Experience:**

  - Auto-hiding informational and error messages provide non-intrusive feedback.
  - Pagination for easy navigation through extensive search results.

Technologies Used

- **Frontend:** HTML, CSS (Tailwind CSS), JavaScript (React)

- **APIs:**

  - arXiv API for publication data retrieval.
  - Crossref API for DOI resolution and BibTeX generation.

How to Run Locally

1. **Save the Code:** Copy all the HTML code from the `arxiview-app` immersive document.

2. **Create a File:** Open a plain text editor (e.g., Notepad, VS Code, Sublime Text).

3. **Paste and Save:** Paste the copied code into the editor. Save the file with an `.html` extension (e.g., `arxiview.html`). Ensure you select "All Files" or "Plain Text" as the file type to prevent unwanted `.txt` extensions.

4. **Open in Browser:** Locate the `arxiview.html` file on your computer and double-click it. It will open in your default web browser.

Usage

1. **Search:**

   - Use the "Enter topic" field for general keyword searches (e.g., "machine learning").
   - Use the "Search by author" field for exact author name searches (e.g., "Albert Einstein").
   - Select a "Main Category" and optionally a "Subcategory" from the drop-downs to browse specific physics fields.

2. **View Publications:**

   - Scroll through the list of publications in the middle column.
   - Click "View PDF" to open the article in the rightmost panel.

- Click on image thumbnails within an article's details to see a larger preview in the leftmost panel.

3. **BibTeX Generation:**

   - In the "BibTeX Generator" section (bottom-left panel), paste a research article URL (preferably with a DOI) into the input field.
   - Click "Generate BibTeX" to get the citation.
   - Use "Copy BibTeX" to copy the generated text to your clipboard.

4. **Customize Display:**

   - Use the "Font Size" and "Font Family" dropdowns to adjust text appearance.
   - Use "Enlarge" and "Shrink" buttons to change the overall application width.
   - Toggle between light and dark mode using the sun/moon icon.