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bskyr: An R Package to Interact with Bluesky Social

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Software

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Summary

Bluesky Social is an offshoot of Twitter, designed to provide a decentralized alternative to traditional social media platforms. `bskyr` is an R package (R Core Team, 2025) that provides programmatic access to Bluesky Social. The package wraps the official Bluesky Social API, enabling users to retrieve posts, threads, user profiles, social graphs (e.g., follows, mutes, blocks), curated lists, and starter packs. It also supports content creation and interaction so that users can post, reply, like, repost, and follow directly from R. All data is returned in tidy data frames, making it compatible with standard R workflows for analysis and visualization. This allows users of `bskyr` to not only collect data for observational studies but also to engage with the platform programmatically, such as posting updates or interacting with other users.

Statement of Need

Following the acquisition of Twitter by Elon Musk in 2022, Bluesky Social launched a public beta in February 2023. Bluesky Social is built on the Authenticated Transfer (AT) Protocol, a decentralized social networking protocol that emphasizes user control, data portability, and interoperability. Bluesky has over 30 million users (The Bluesky Team, 2025). A similar package, Rtoot (Schoch & Chan, 2023), has been designed for an alternative decentralized platform Mastodon.

Bluesky's decentralized design makes it an appealing platform for researchers interested in social media data, as it allows for near complete access to public posts, user interactions, and social graphs without the restrictions often imposed by centralized platforms. In contrast, existing packages for Twitter, such as `academictwitteR` (Barrie & Ho, 2021) or `rtweet` (Kearney, 2019), have unfortunately become less reliable due to changes in Twitter's API access policies and the platform's evolving nature under new ownership.

Due to the decentralized nature of Bluesky Social, users can access a wide range of public data without the restrictions often imposed by centralized platforms. This is unlikely to be threatened by future changes to the platform, as Bluesky Social is open-source and designed to be accessible, with final control held by a public benefit corporation.

`bskyr` offers a consistent and user-friendly interface to nearly all public endpoints of Bluesky Social. It handles authentication, pagination, and API structure internally, allowing users to focus on data retrieval and interaction logic rather than protocol details. By supporting both reading data from and writing data to Bluesky, `bskyr` enables reproducible workflows that cover data collection, analysis, and programmatic engagement with the platform. This makes it a valuable tool for researchers, developers, and analysts working with social data in R.

Finally, `bskyr` offers flexibility in inputs and outputs. All core operations are supported with automatic tidying of data into familiar tidy formats from the `tidyverse` (Wickham et al., 2019). Users can opt out of cleaning returned data, allowing them to read in raw JSON as native R lists. Similarly, users can use `bskyr` to handle the uploads, but pass their own list objects.

Examples

At its simplest, `bskyr` formats data inputted by users into lists that can be passed to the Bluesky Social API. It also automates conversion from JSON to an R tibble when users want to read content from Bluesky. Below demonstrates the simplest workflow for authenticating, making a simple post, and then gathering data from a single endpoint.

Prior to making or collecting content, users must authenticate with Bluesky. To authenticate, all users need an account with a handle and an app password.

```
library(bskyr)
bs_auth(user = 'chriskenny.bsky.social', app_password = 'XXXX-XXXX-XXXX-XXX')
```

From there, users can utilize many of the functions in `bskyr` to interact with Bluesky Social. For example, users can post content to Bluesky Social using the `bs_post` function:

```
bs_post('Hello, Bluesky!')
```

Users can retrieve nearly all records from Bluesky Social. For example, users can get information on a specific user using the `bs_get_user` function:

```
bs_get_user('chriskenny.bsky.social')
```

References

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