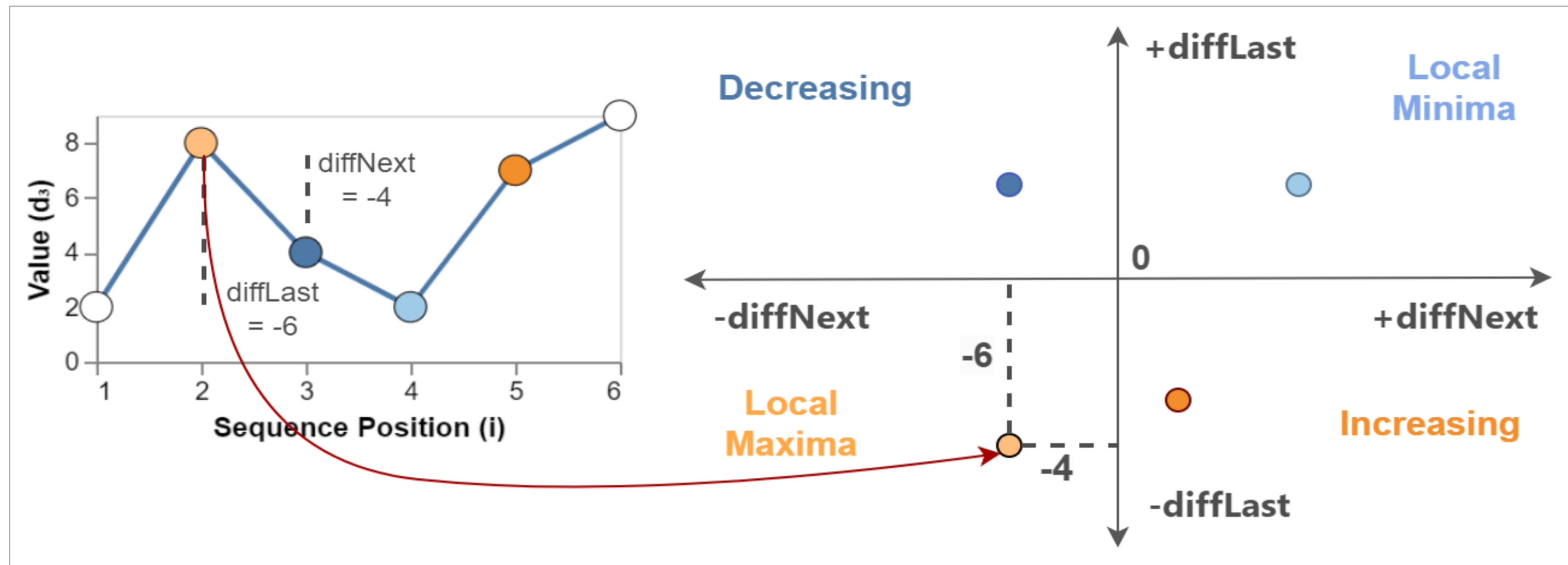


# LaNe Plot: A Visual Fingerprinting Technique For Sequential Data

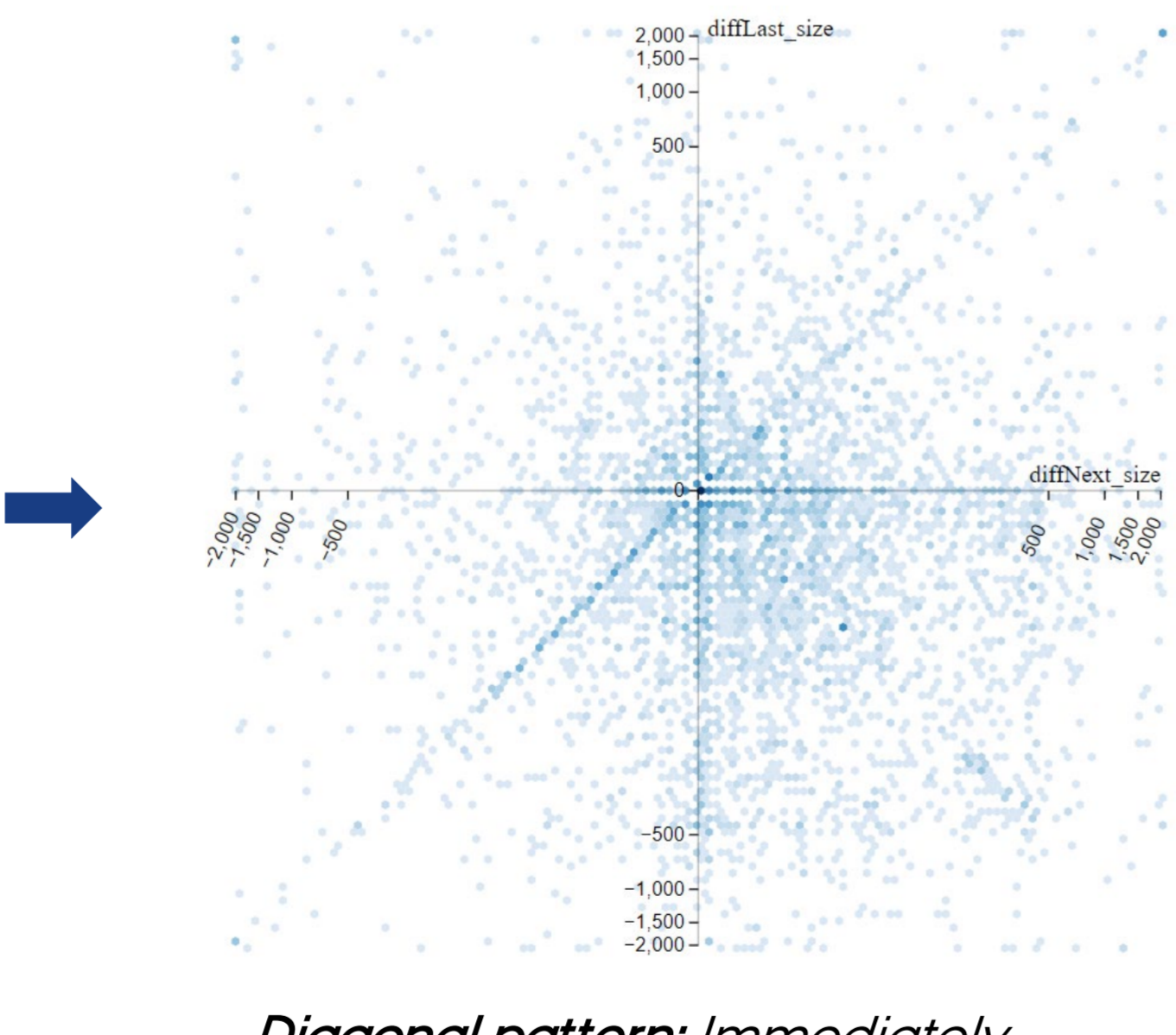
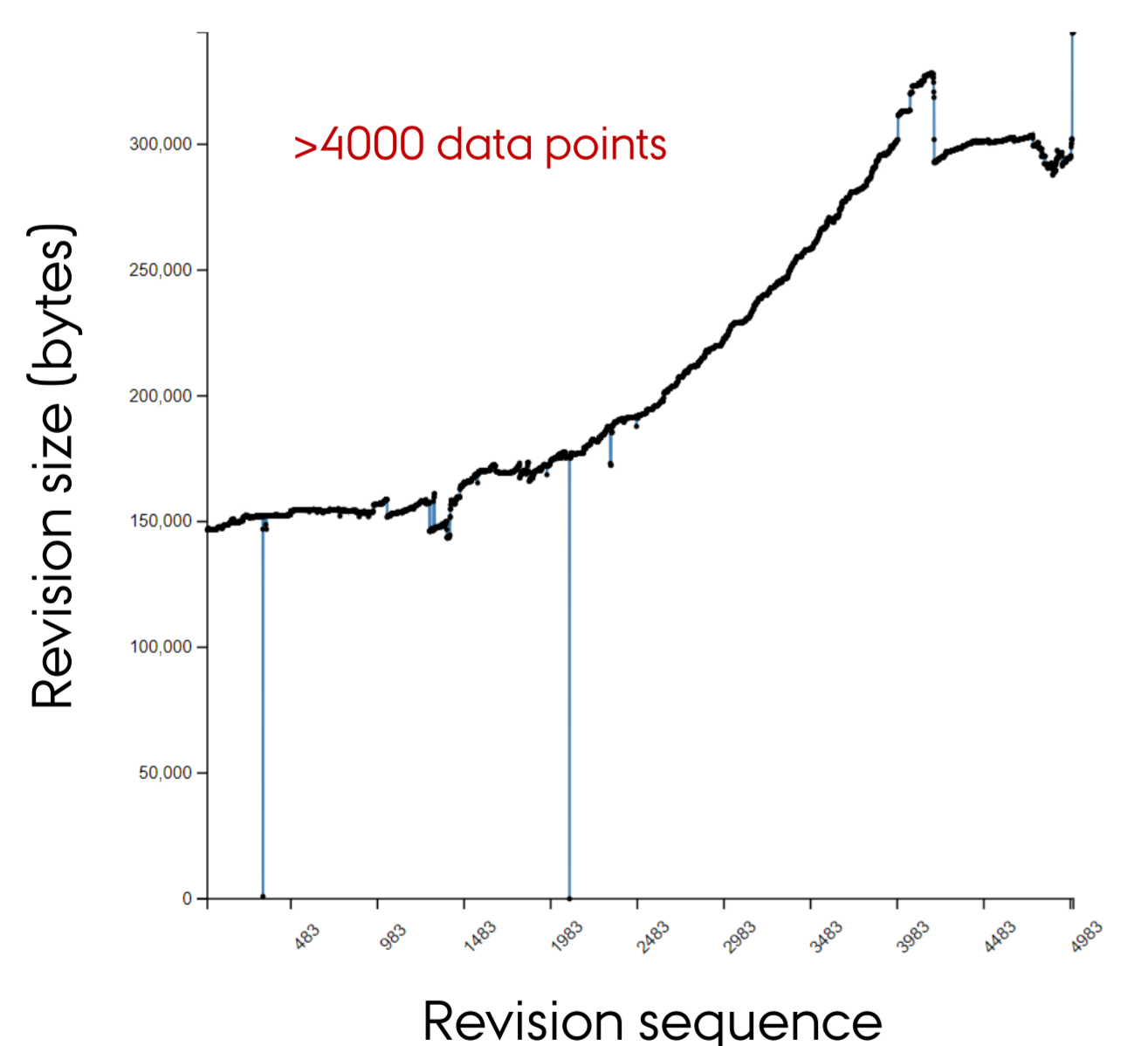
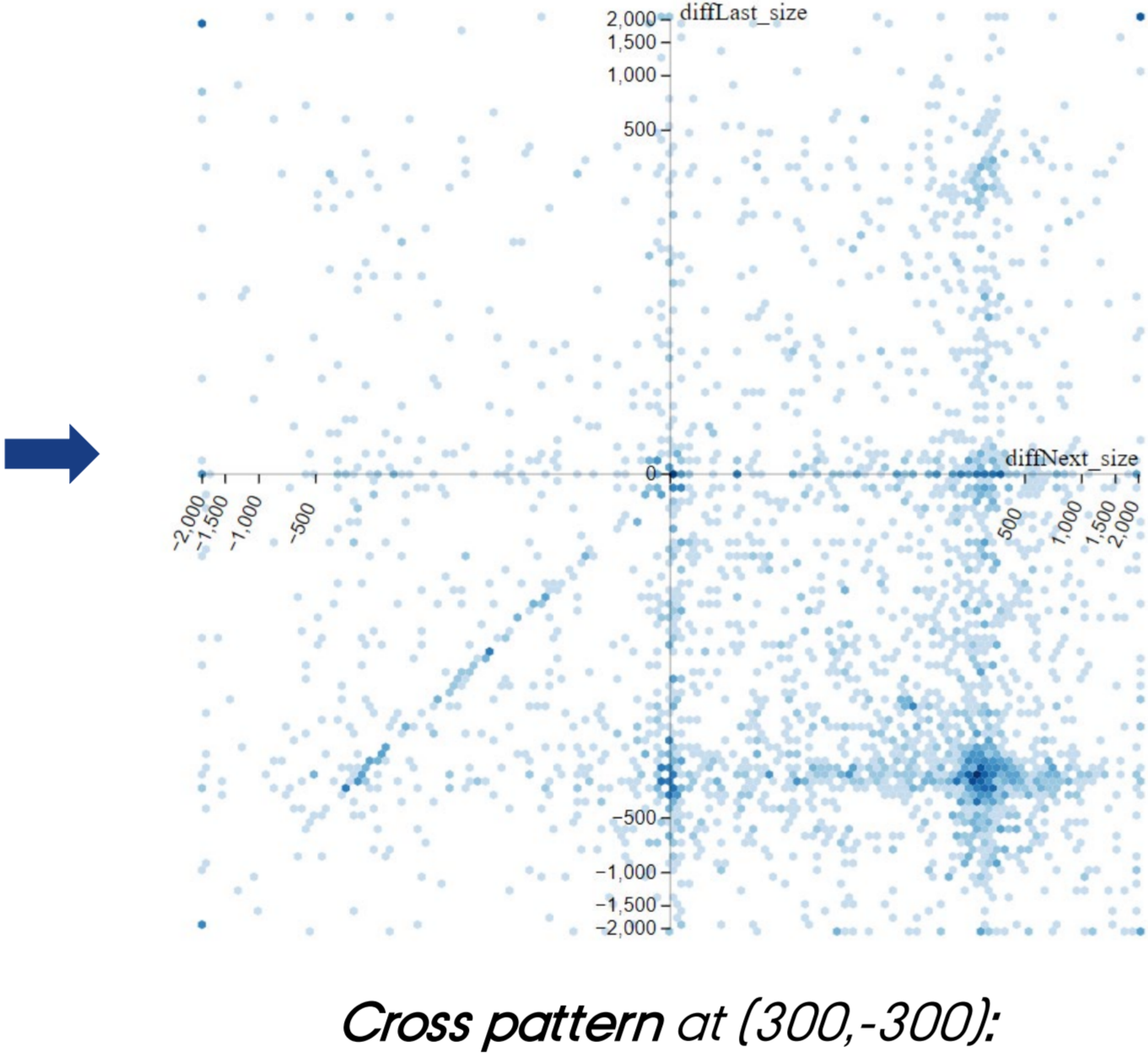
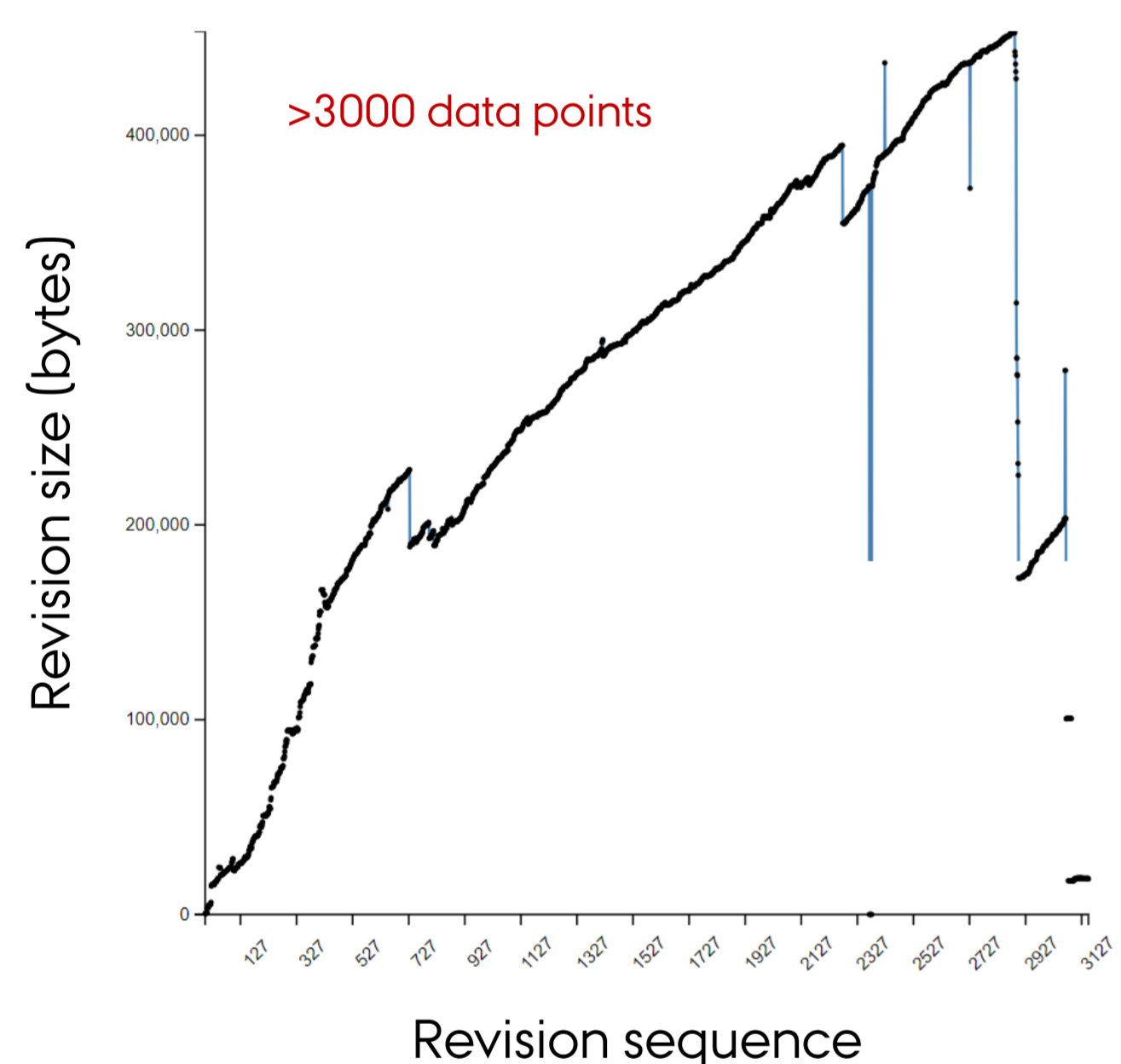
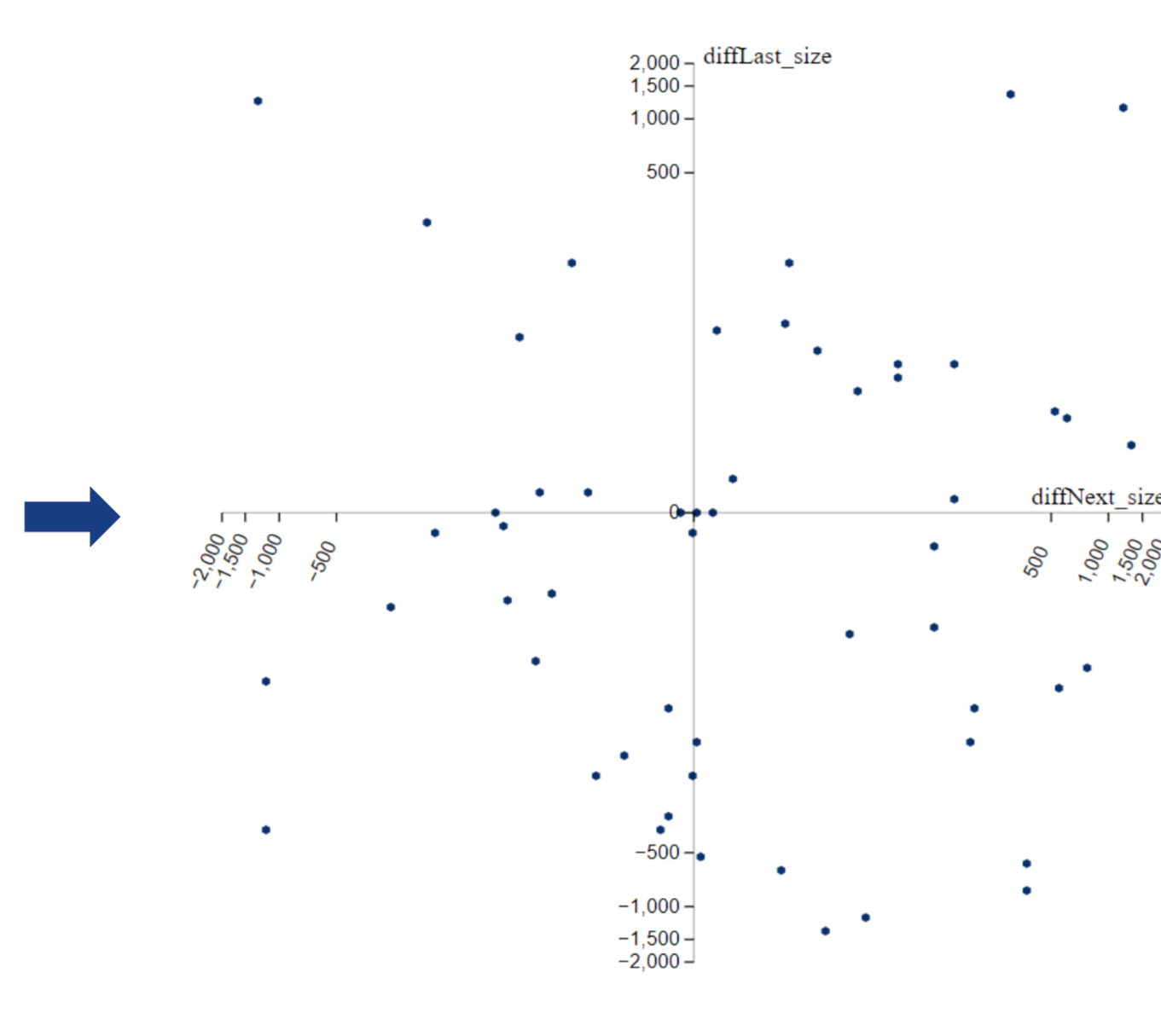
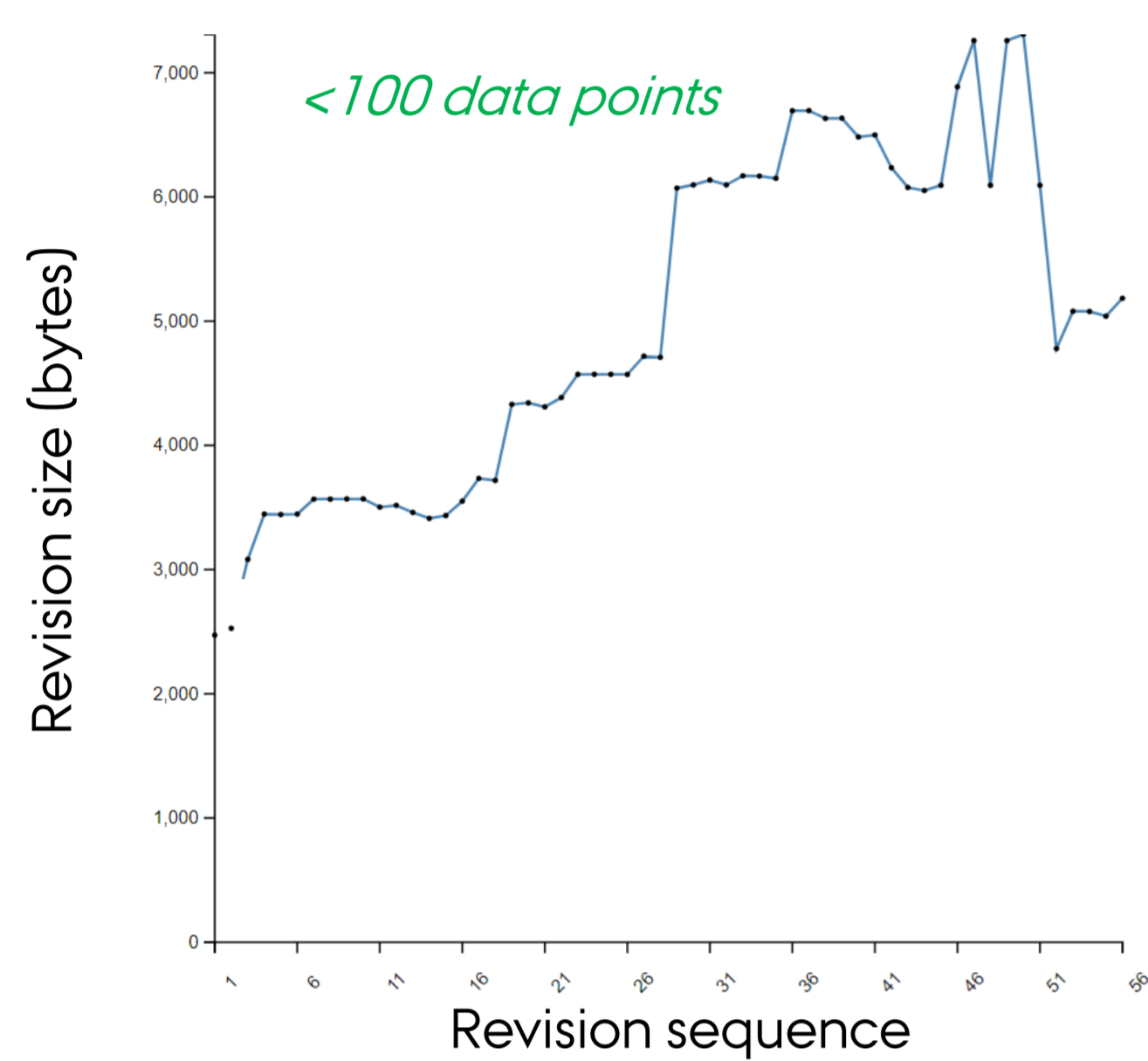
Harith Rathish, Ginés Carreto Picón, Hans-Jörg Schulz

## Technique

For each data point in a sequence, visualize the *difference* between the **Last** and **Next** data point.

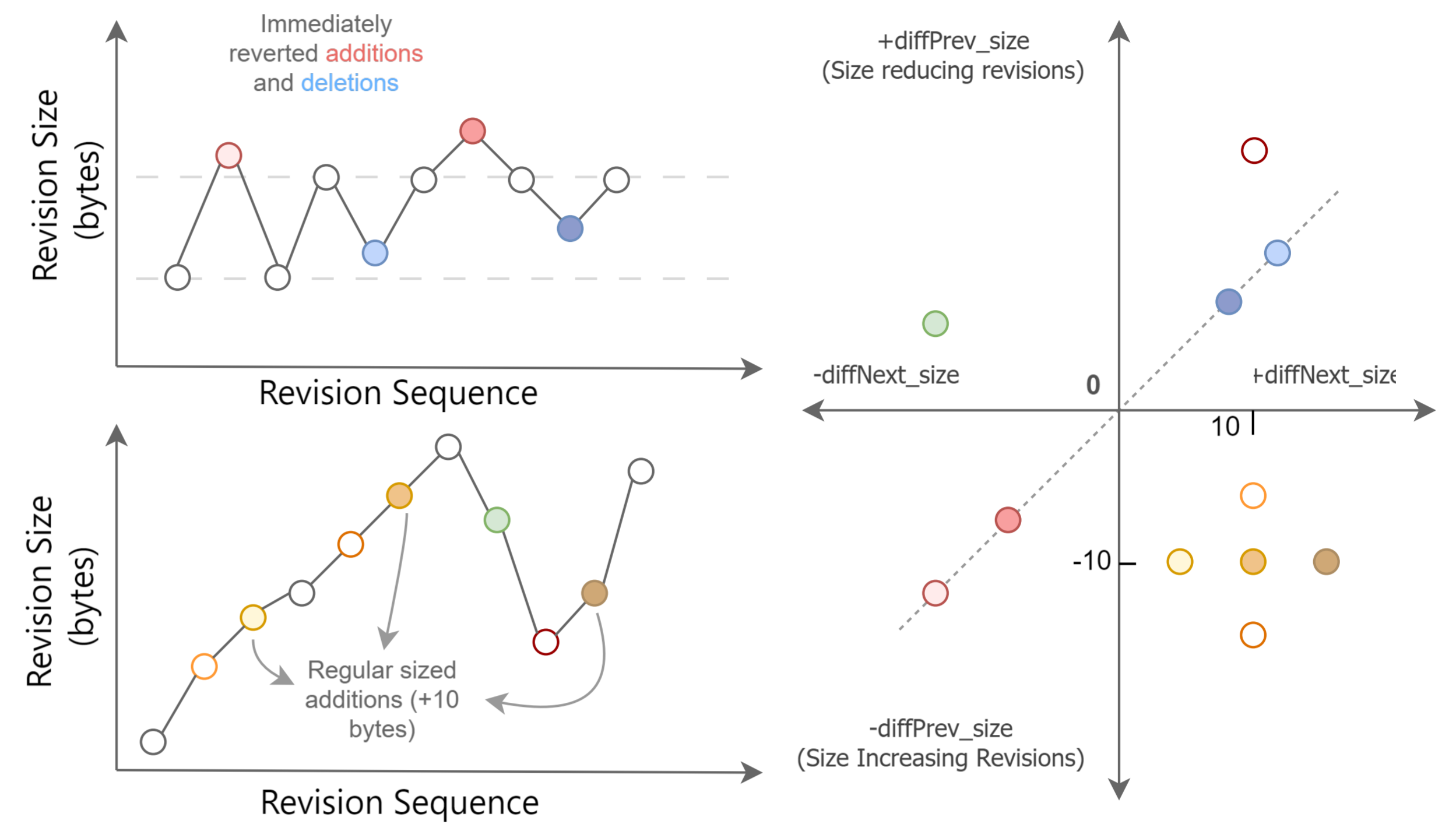


## Usage Scenarios



## Example: Wikipedia revisions

**Dataset Finding**  
: Revision histories of Wikipedia articles  
: **Immediate reversions** -> **Diagonal pattern**  
: **Additions/removals from tables** -> **Cross pattern**



Fingerprinting **large** sequential data is challenging. When **limited screen space** is a constraint, the LaNe plot reveals patterns that compliment conventional techniques.

**Contents** hide

(Top)

**Ted Cruz**

John Kasich

Donald Trump

> Jeb Bush (withdrawn)

> Ben Carson (withdrawn)

> Chns Christie (withdrawn)

> Carly Fiorina (withdrawn)

> Jim Gilmore (withdrawn)

> Mike Huckabee (withdrawn)

> Rand Paul (withdrawn)

> Marco Rubio (withdrawn)

> Rick Santorum (withdrawn)

> Lindsey Graham (withdrawn)

**U.S. Senators**

**Current**

- Mike Lee, Utah<sup>[17]</sup>
- Lindsey Graham, South Carolina; 2016 presidential candidate<sup>[18]</sup> (previously endorsed Jeb Bush)

**Former**

- Bob Smith, New Hampshire; 2000 Presidential Candidate<sup>[19]</sup>
- Phil Gramm, Texas<sup>[20]</sup>

**U.S. Representatives**

**Current**

- Justin Amash, Representative from Michigan<sup>[21]</sup> (previously endorsed Rand Paul<sup>[22]</sup>)
- Brian Babin, Representative from Texas<sup>[23]</sup>
- Jim Bridenstine, Representative from Oklahoma<sup>[24]</sup>
- Mo Brooks, Representative from Alabama<sup>[25]</sup>
- Ken Buck, Representative from Colorado<sup>[26]</sup>
- Michael C. Burgess, Representative from Texas<sup>[27]</sup>
- John Culberson, Representative from Texas<sup>[4]</sup>
- Jeff Duncan, Representative from South Carolina<sup>[28]</sup>
- Trent Franks, Representative from Arizona<sup>[29]</sup>

Size of each list entry: **300 bytes** (roughly)

Most edits were **additions** to the list

Most **immediate reversions** were of edits that **added wrong endorsements**

Article : "Endorsements in 2016 Rep. party presidential primaries"

**Contents** hide

(Top)

**Early life**

> Professional wrestling career

> Undertaker gimmick, identities and character evolution

> Legacy and reception

**Personal life**

> Appearances and references in external media forums

Big screen and small screen roles

**Video games**

Championships and accomplishments

Other awards and honors

WrestleMania record

**The Undertaker**

Article Talk

From Wikipedia, the free encyclopedia

This article is about the American professional wrestler. For other uses, see *Undertaker (disambiguation)*.

**Mark William Calaway** (born March 24, 1965), better known by his ring name **The Undertaker**, is an American retired professional wrestler. Widely regarded as one of the greatest professional wrestlers of all time,<sup>[1]</sup> Calaway spent the vast majority of his career wrestling for WWE and in 2022 was inducted into the WWE Hall of Fame.<sup>[13]</sup>

Calaway began his career in 1987, working under various gimmicks for World Class Championship Wrestling (WCCW) and other affiliate promotions. He signed with World Championship Wrestling (WCW) in 1989 for a brief stint, and then he joined the World Wrestling Federation (WWF, turned WWE) in 1990.

Calaway was rebranded as "The Undertaker" once joining the WWF. As one of WWE's most high-profile and enduring characters,<sup>[14]</sup> The Undertaker is famed for his undead, funeral, macabre "Deadman" persona, which gained significant mainstream popularity and won him the *Wrestling Observer Newsletter* award for Best Gimmick a record-setting 5 years in a row.<sup>[16]</sup> He is the longest-tenured wrestler in company history at 30 years. In 2000, Calaway expanded on The Undertaker, fleshing out the gimmick with a human side, biker identity, dubbed "The American Badass". Calaway later resurrected Deadman Undertaker in 2004, with residual elements of American Badass Undertaker remaining.

More descriptive, no heavily edited lists or tables

Hotly debated topic, higher vandalism

Article - "The Undertaker"

## Line chart

- Shows spikes in values
- Shows overall increasing trend
- Not scalable to large sequences

## LaNe plot

- Summarizes fluctuations in the sequence
- **Space efficient**
- **Scalable** to large sequential data

## Future Work

- What **other datasets** make sense for the LaNe plot?
- What **other visualization** techniques can the LaNe plot complement?
- How to **evaluate** the effectiveness of the LaNe plot?

Want to know more? Email me at [harith@cs.au.dk](mailto:harith@cs.au.dk)