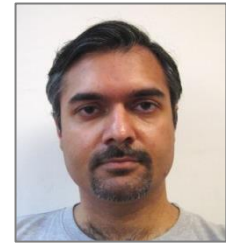


Gramener

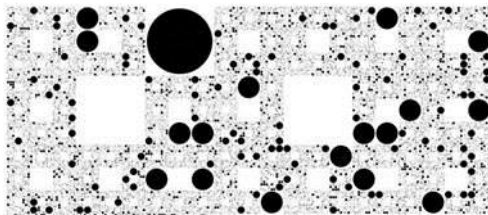
A data analytics and visualisation company



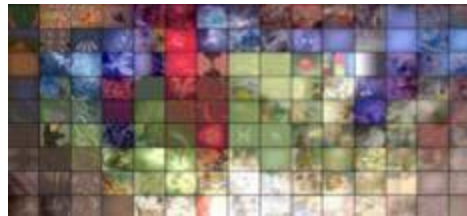
S ANAND

CHIEF DATA SCIENTIST

We handle terabyte-size data



via non-traditional analytics



and visualise it in real-time.



Gramener visualises
your data

Gramener transforms your data into concise dashboards that make your business problem & solution visually obvious. We help you find insights quickly, based on cognitive research, and our visualisations guide you towards actionable decisions.

THE SOCIAL TALE OF TWO CITIES: BANGALORE & SINGAPORE

Recruiting top quality developers is always a problem. We decided to use an algorithmic approach and pulled out the social network of developers on **GitHub** (a social network for open source code).

In this visualisation, each circle is a person. The size of the circle represents the number of followers. **Larger circles have more followers** (but not in proportion – it's a log scale.)

The circle's colour represents the city the programmer's live in. This visual is a slice showing the tale of two cities: Bangalore and Singapore

Two people are connected if one follows the other. This leads to a clustering of people in the form of a network.

Here, you can see that **Bangalore** and **Singapore** are reasonably well connected cities. Bangalore has more developers, but Singapore has more popular ones (larger circles).

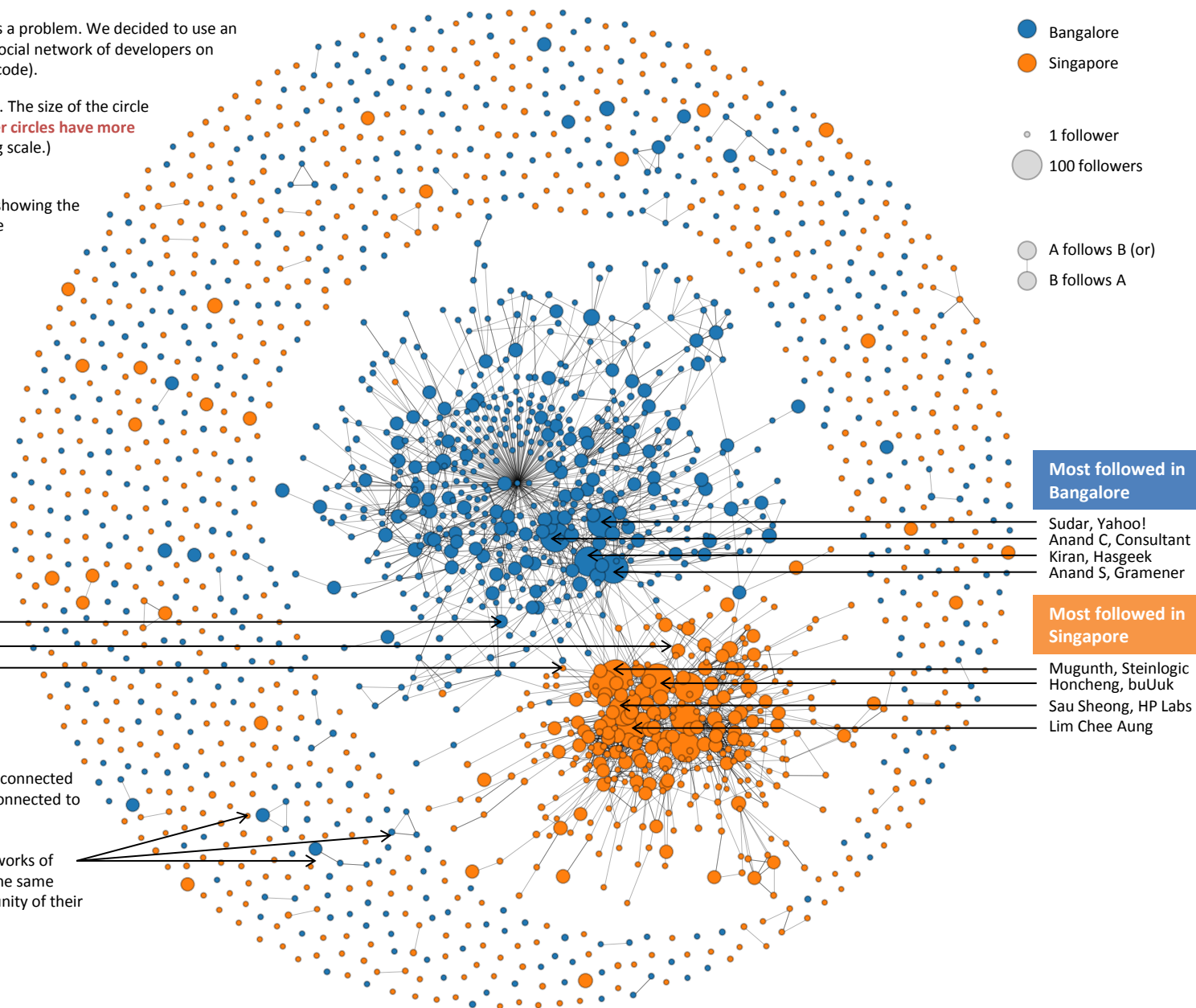
However, the interaction between Bangalore and Singapore are few and far between. But for a few people across both cities, like:

Ciju Cherian
Lin Junjie
Amudhi Sebastian

... etc.

There are, of course, a number of smaller independent circles – people who are not connected to others in the same city. (They may be connected to people in other cities.)

Apart from this, there are a few small networks of connected people – often people within the same company or start-up – who form a community of their own.





VISUALISING THE MAHABHARATA

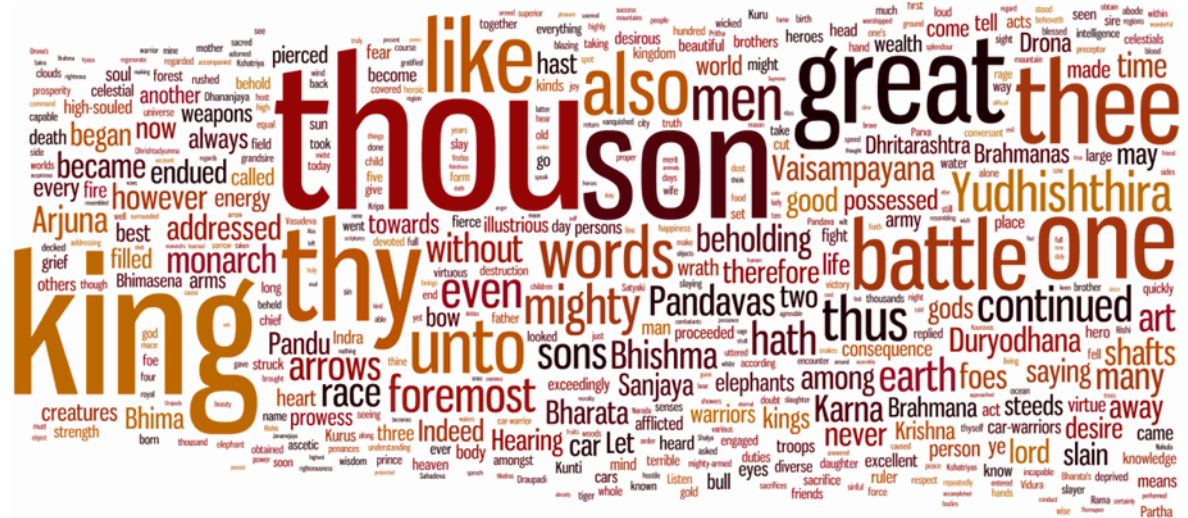
How does Mahabharata, one of the largest epics with 1.8 million words lend itself to text analytics?

Can this ‘unstructured data’ be processed to extract analytical insights?

What does sentiment analysis of this tome convey?

Is there a better way to explore relations between characters?

How can closeness of characters be analysed & visualized?





EDUCATION

PREDICTING MARKS

What determines a child's marks?

Do girls score better than boys?

Does the choice of subject matter?

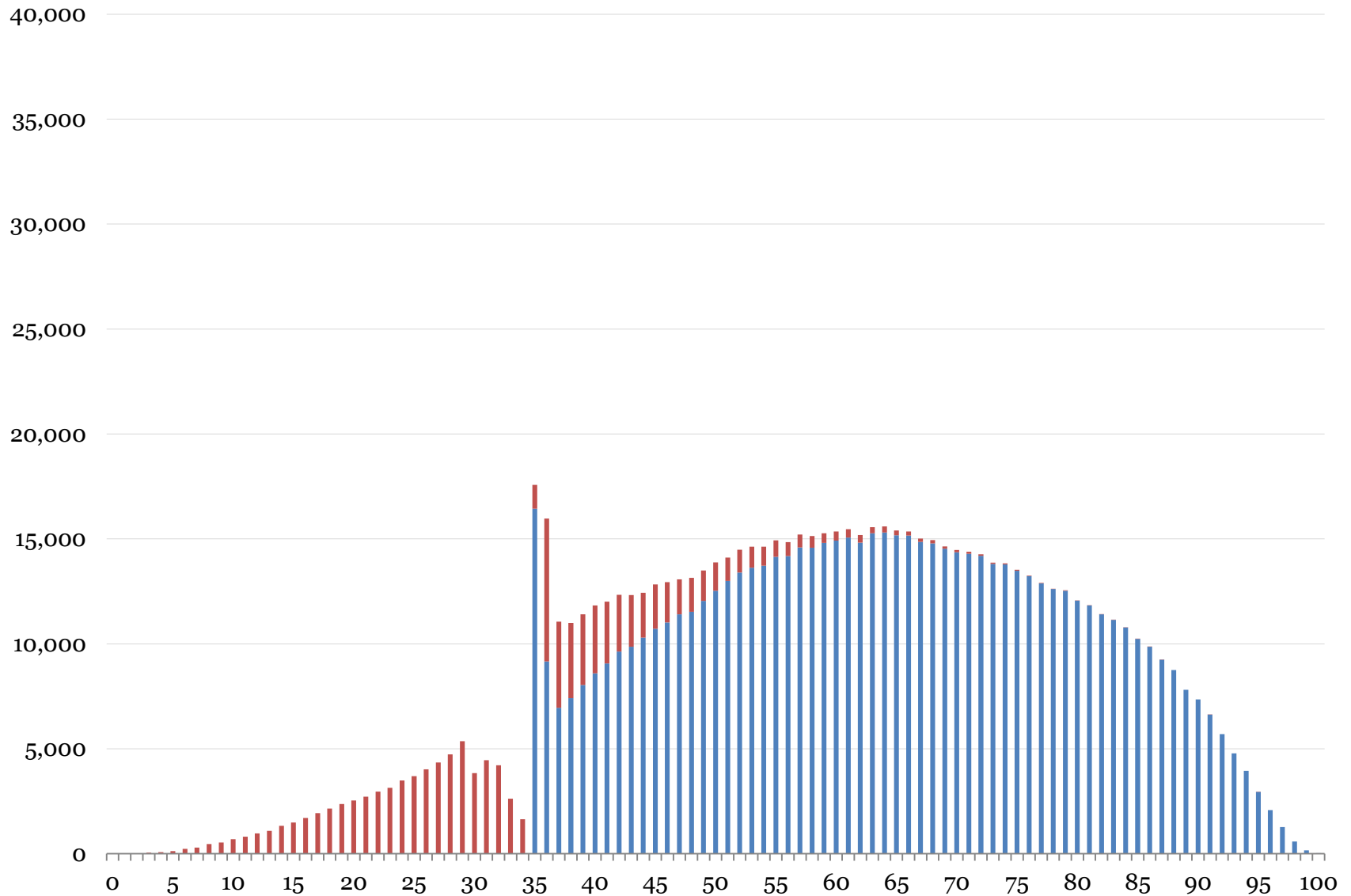
Does the medium of instruction matter?

Does community or religion matter?

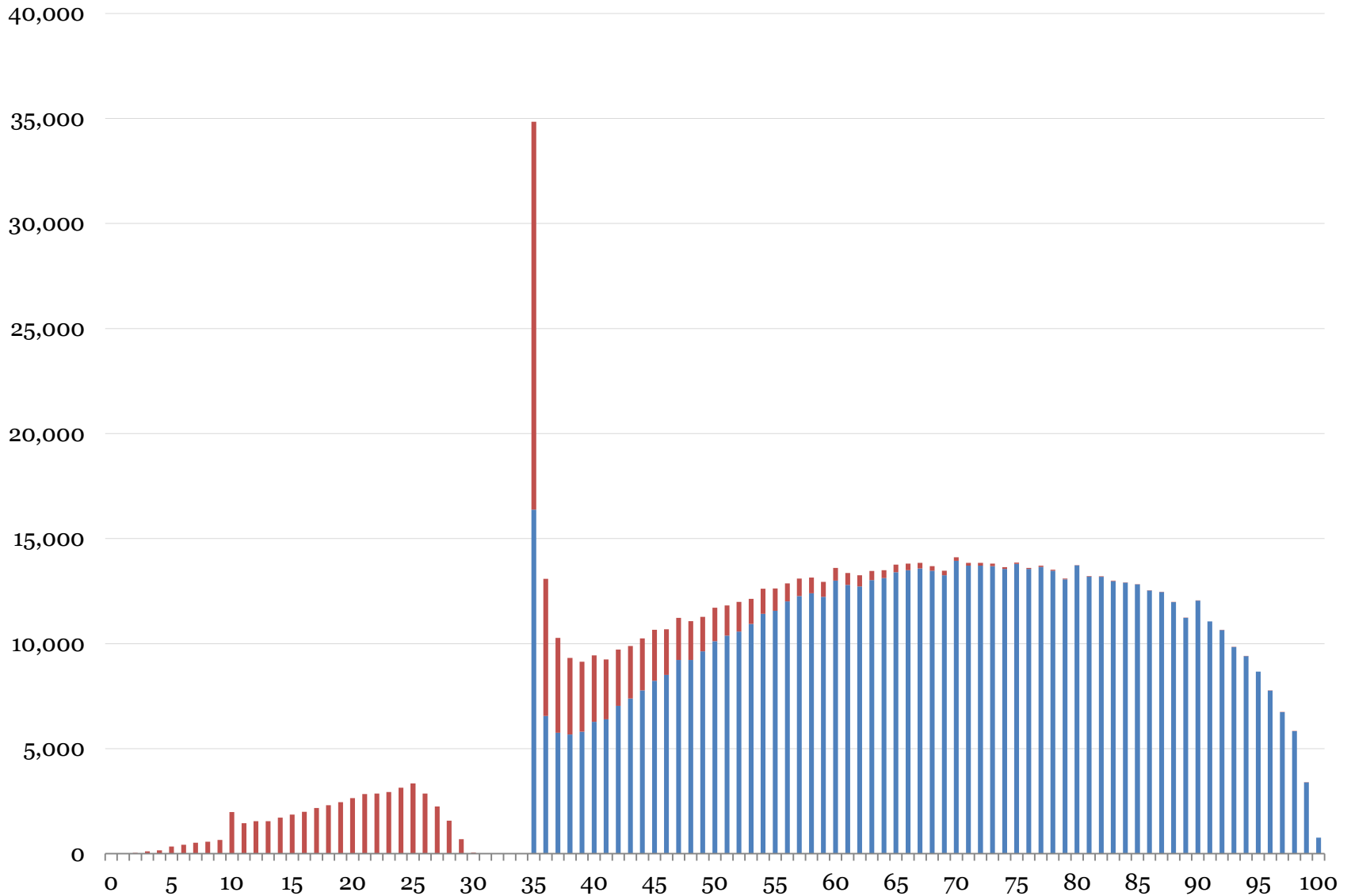
Does their birthday matter?

Does the first letter of their name matter?

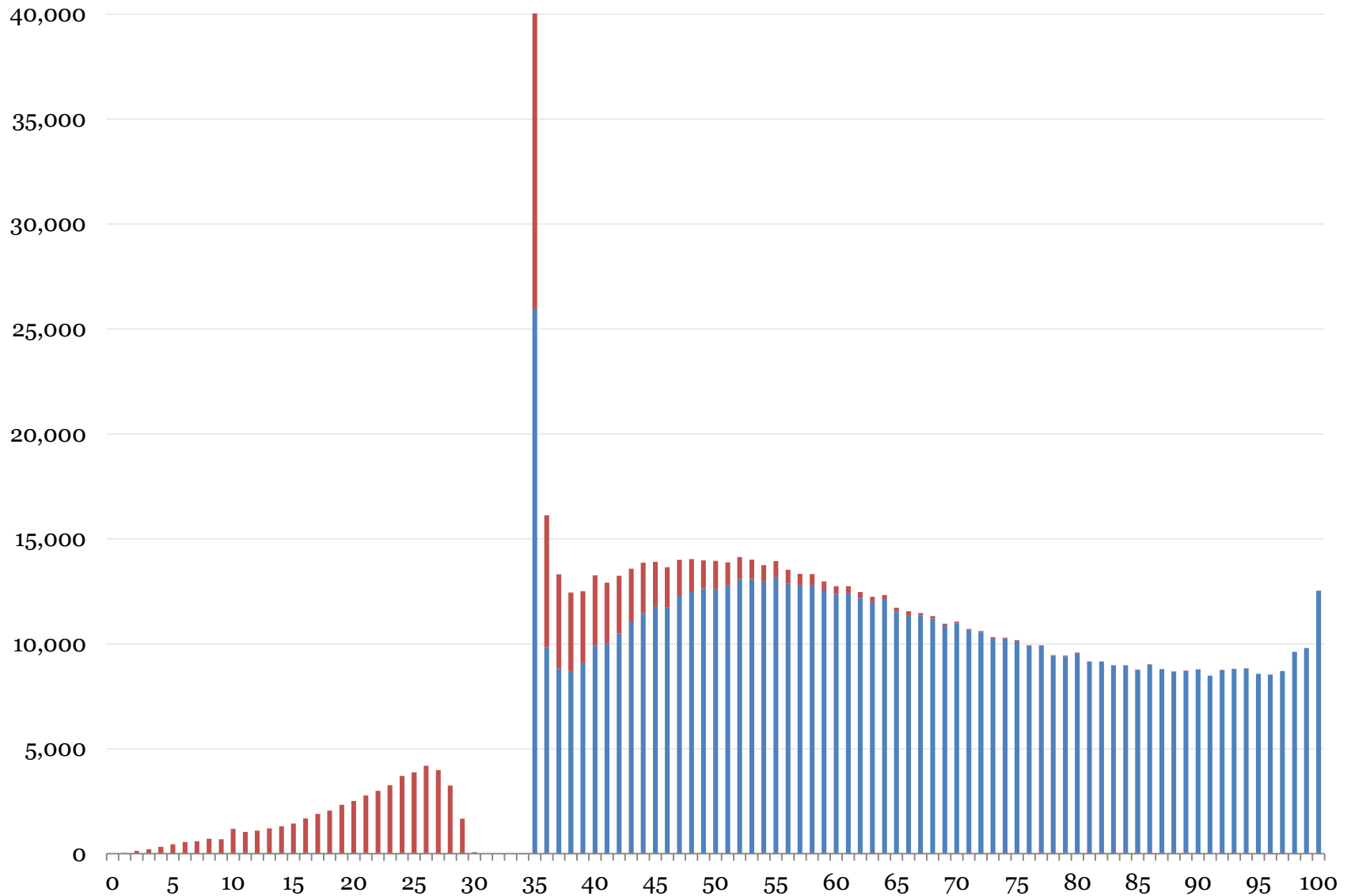
TN CLASS X: ENGLISH



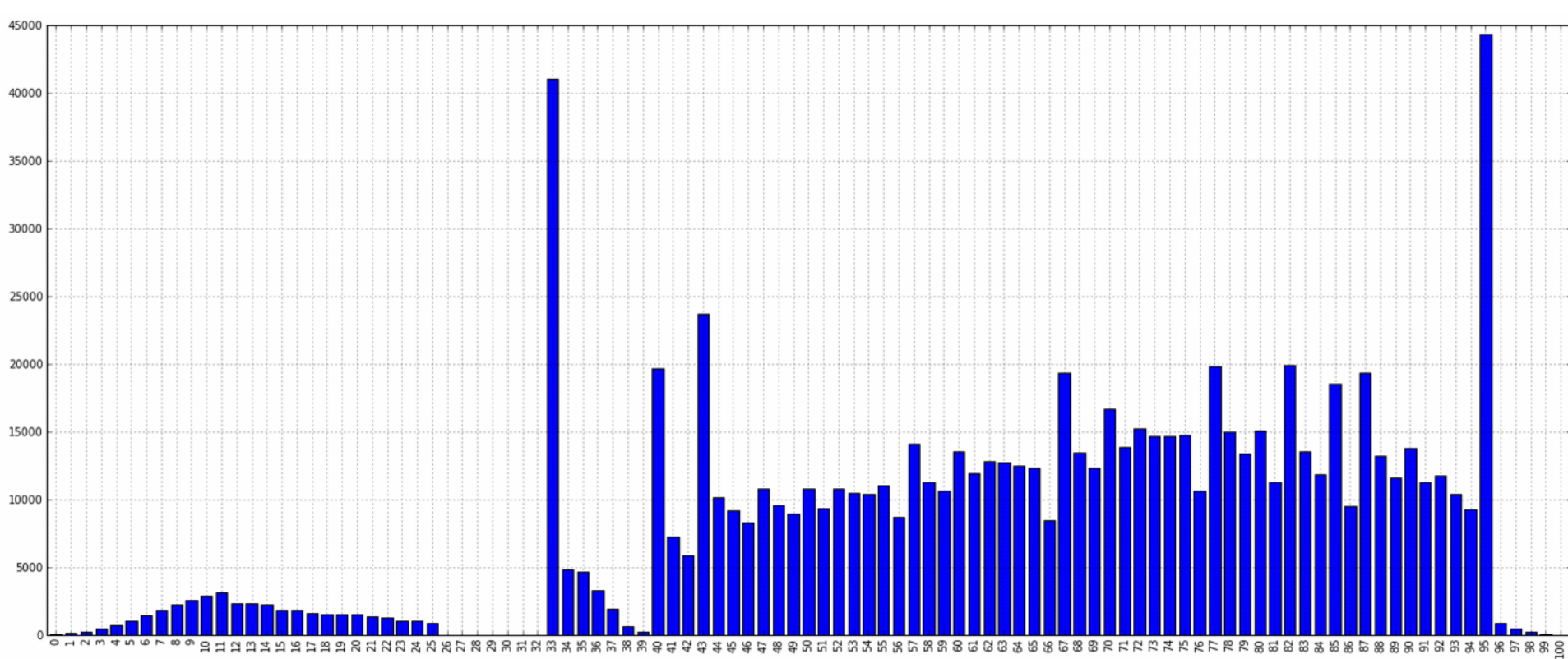
TN CLASS X: SOCIAL SCIENCE



TN CLASS X: MATHEMATICS



CBSE 2013 CLASS XII: ENGLISH MARKS



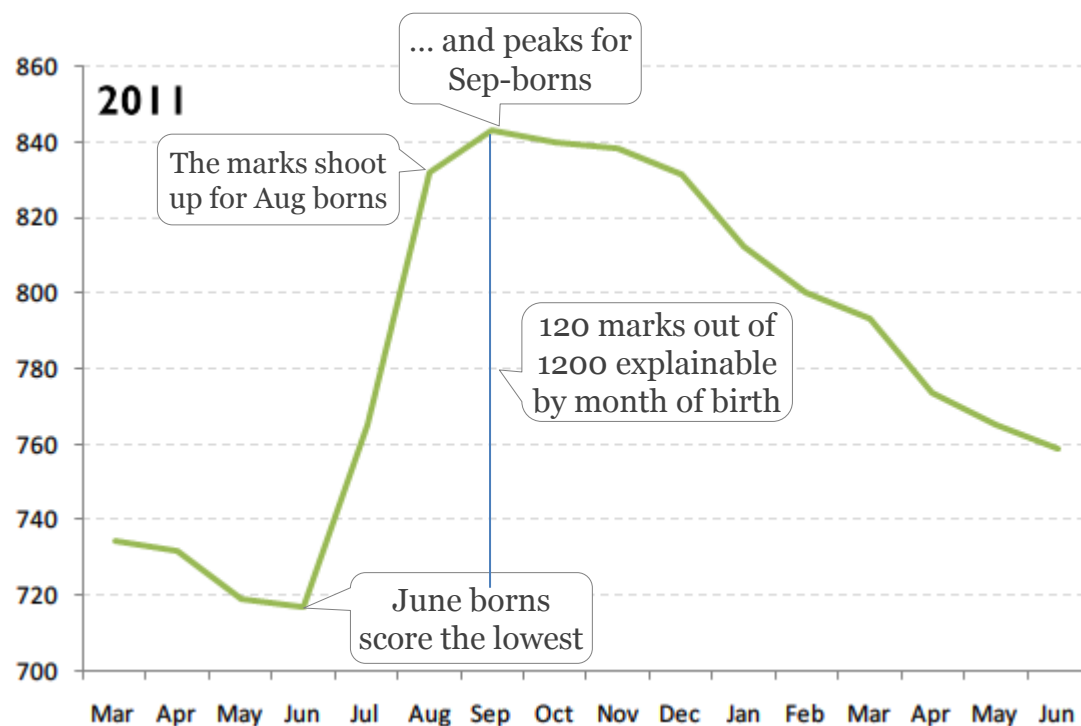
Where have we applied this?

Energy fraud

Bank balances

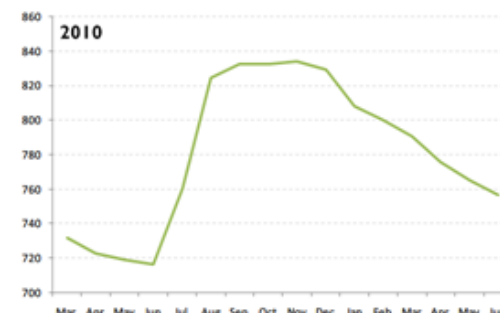
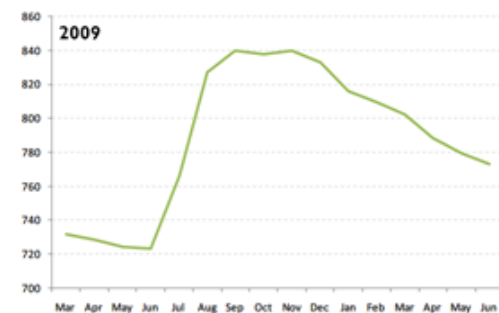
Medical insurance claims

Based on the results of the 20 lakh students taking the Class XII exams at Tamil Nadu over the last 3 years, it appears that the month you were born in can make a difference of as much as 120 marks out of 1,200.



An identical pattern was observed in 2009 and 2010...

"It's simply that in Canada the eligibility cutoff for age-class hockey is January 1. A boy who turns ten on January 2, then, could be playing alongside someone who doesn't turn ten until the end of the year—and at that age, in preadolescence, a twelve-month gap in age represents an enormous difference in physical maturity."



-- Malcolm Gladwell, Outliers

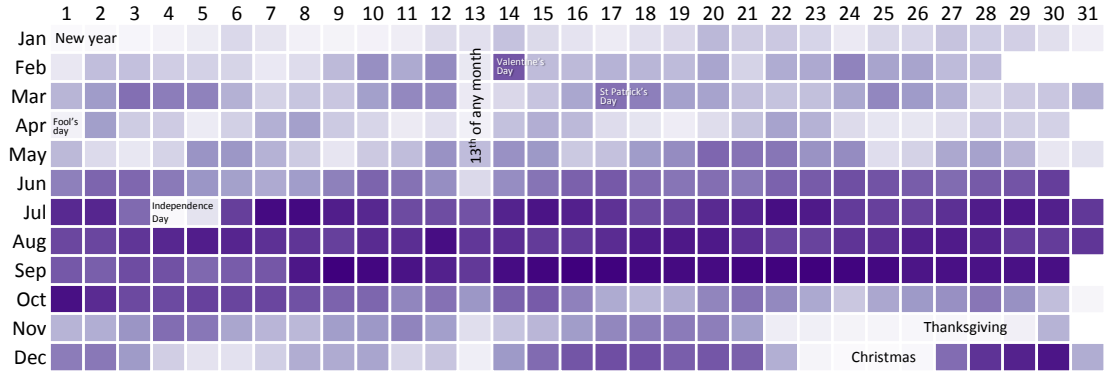
... and across districts, gender, subjects, and class X & XII.

BIRTHDAYS IN THE US AND IN INDIA

This visualisation shows the **popularity of birthdays in the US** between 1973 – 1999. Dark colours indicate more popular birthdays. Light colours are less popular.

It's interesting that there are **fewer births on holidays** – almost as if doctors and hospitals do not wish to be disturbed during these days. Since 60% of the births in this period were C-sections, this does offer some flexibility.

But it's the parents too. Notice how **fewer children are born on the 13th** of any month? Superstition, perhaps? April 1st appears to be a day to avoid too, while Feb 14th – Valentine's Day – is a favourite.



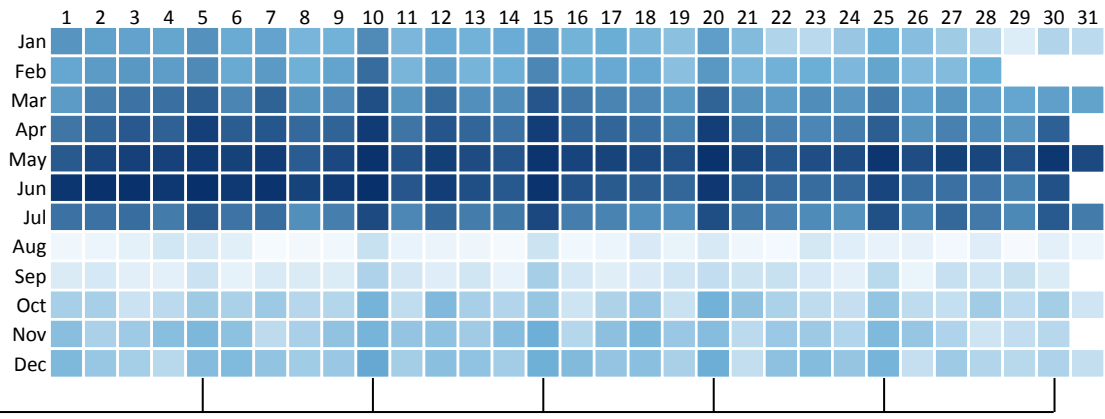
U.S. Birthdays

Most birthdays are in Jul – Sep, roughly 9 months after the winter holidays

Shown alongside is the **popularity of birthdays in India** between 2007 – 2012, for about 10 million students. Dark colours indicate more popular birthdays. Light colours are less popular.

We see a very different pattern here. Almost **no one is born in August**. A lot of births are also clustered around the months of May and June, just before schools open – and given that this data is based on school records, perhaps there is reason to suspect that these numbers are faked.

It's also suspicious that a surprisingly large number of people have birthdays on the 5th, the 10th, the 15th, the 20th etc of the month. Perhaps, when faking numbers, **it is easier to fake round numbers**.



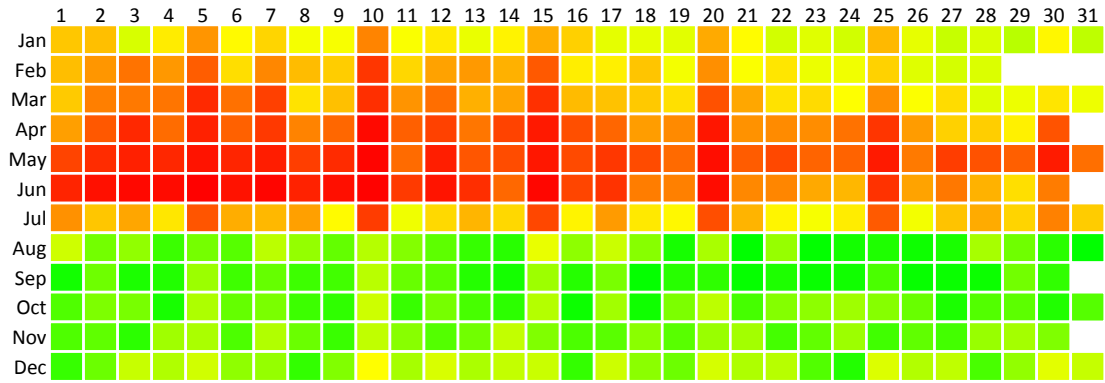
Indian Birthdays

Most birthdays are in Apr-June, while almost no one is born in August.

This rush to get children into school has an adverse impact on their marks. You can see that those “born” on the 5th, the 10th, the 15th, etc have lower marks – most likely because these are younger children who have been taken to school earlier than their peers.

Similarly, those “born” in the first half of May have relatively lower marks. June the 1st is a particularly bad day. This is the most common birthday according to the records. (More common than Jan 1st, which is the second most common.) It also has the lowest marks on average.

Source: Tamil Nadu & Karnataka State Board examination results, 2006 - 2012



Indian Marks

Those “born” just before school opens seem to have lower marks

INDIA'S BATTLING IN ONE DAY INTERNATIONALS

Gramener

Every innings by India's top 50 batsmen is shown here. The size of the boxes is based on the number of runs scored. The colour of the box indicates the strike rate.

20

50

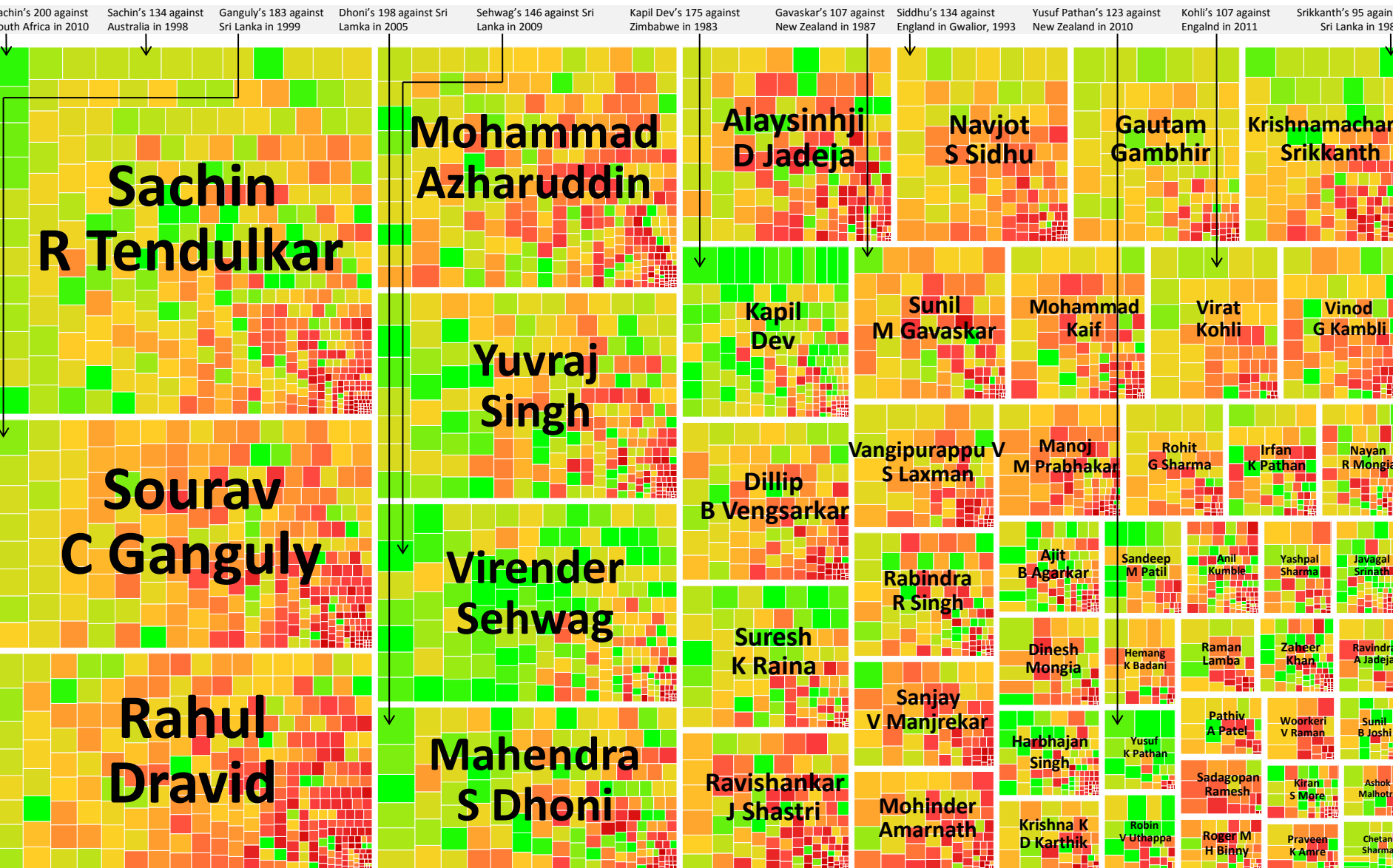
80

110

140

Who are India's fastest ODI batsmen? That's a tough question. The quick answer appears to be **Sehwag**, at about a 105 S/R. But strike rates have been improving at about 3.5% every decade. Adjusting for that, **Kapil Dev**'s strike rate is almost exactly the same.

150 pages of information on a single page? That's what this visualisation does. It captures every the key information about every international innings ever played by an India. On a tabular printout, this would span 150 pages. But it's far more intuitive to see these numbers with **Gramener's visualisation server**.



A photograph of a cricket player in a blue uniform, wearing a helmet and gloves, swinging a bat. The player is in a dynamic pose, with the bat raised high. The background is a blurred crowd of spectators.

CRICKET

FASTEST SCORERS

“

I've always been curious... who among India's prolific one-day run-getters had the best strike rate?

Sachin?

Sehwag?

What about the rest of the world?

INDIA ODI BATTING

