

Google Accused of Trying to Patent Public Domain Technology

By

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A Polish academic is accusing Google of trying to patent technology he invented and that he purposely released into the public domain so companies like Google couldn't trap it inside restrictive licenses.

The technology's name is Asymmetric Numeral Systems (ANS) [[1](#), [2](#)], a family of entropy coding methods that Polish assistant professor [Jarosław \(Jarek\) Duda](#) developed between 2006 and 2013.

ANS is a game changer for data compression

Over the years, due to its many advantages, variations of Duda's ANS technology — tANS and rANS — have been adopted in several data compression systems, such as Apple's LZFS compressor, Facebook's Zstandard compressor, and Google's Draco 3D compressor.

Further, ANS is also currently considered for the coding phase of AV1, an upcoming open video coding format.

Tech companies are choosing Duda's ANS technology because it provides faster compression and decompression speeds with minimal data loss, without the downside of a huge computational cost. Rough estimations show that Duda's ANS is between [3 to 30 times faster](#) when compared to classic Huffman and arithmetic coding techniques used in the past.

It is no wonder that whoever holds an ANS-related patent could be in line for some pretty big royalty fees in the upcoming future.

Google files for ANS-related patent in over 100 countries

One of the first companies that tried to patent ANS-related technology was StoreLeap in the UK, but Duda moved quickly to block the company's application with the UK Intellectual Property Office, nonetheless, the patent is very close to being approved in the US.

Duda is now in for a bigger fight, as the world's most valuable company — Google — has also filed a similar patent application [in the US](#) and more than [100 other countries](#).

The researcher has not taken Google's patent application lightly, calling it a "nice 'thank you' from a multibillion 'don't be evil' corporation to a poor academic whose work they use for free."

Researcher intentionally released ANS into public domain

In a [patent application complaint](#) [\[cached\]](#) he filed in the US and with WIPO officials, Duda specifically mentions that he published all ANS research in the public domain to "protect its use from becoming a legal minefield."

Duda also points out that Google was well aware of his work, and he even helped Google's staff implement ANS for video file compression.

The researcher now claims that Google is trying to patent some of the same concepts [he shared](#) with the company's engineers.

"The content of this patent application is a direct natural modification of a textbook way for encoding transform coefficients that represent image blocks in video/image compression," the researcher says. "This approach is well known."

"The concerned patent application also briefly introduces well-known basic techniques of ANS [...], used by dozens of people in various public implementations," Duda adds. "While the implementation I have helped them with was for a specific variant of ANS (rANS variant to be exact), this patent application is written in a more general way to restrict free use also of other ANS variants (especially tANS)."

"Despite dubious innovation claims, this application can be seen as a legal risk for both the existing ANS-based image compressors (like GST) and for other parties considering ANS for future image and video compressors. Therefore, I am requesting the rejection of this application," Duda vehemently asked of USPTO and WIPO in his complaint.

Patent orgs may side with Polish researcher

The International Search Authority [ISA], a WIPO department tasked with searching prior patents, has already sided with Duda on the topic and published a [scathing review](#), calling Google's patent as not comprising "an inventive contribution over the prior art, because it is no more than a straightforward application of known coding algorithms."

Writing on online forums, Duda said he had high hopes when he first reached out to Google.

"There was a moment they gave me hope for a formal collaboration with my University so I could build a team, but then silence ... probably due to this patent application," the researcher wrote.

"[Right now,] Google is not responding, probably currently rewriting the patent - showing its determination to reach this monopoly," the researcher told *Bleeping Computer* via email.

Duda's employer — Jagiellonian University in Kraków, Poland, who often touts the researcher's accomplishments [1, 2] — has also pledged public support for the assistant professor's current efforts to defend his invention.

Google did not reply to a request for comment. The article will be updated with any official statement if the company decides to provide context for its patent application.

The mystery remains surrounding Google's decision to patent something that is in the public domain since 2014.

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