PDFs and Academic Studies:

* [unCaptcha: A Low-Resource Defeat of reCaptcha’s Audio Challenge](https://web.archive.org/web/20171116040647/http://uncaptcha.cs.umd.edu/papers/uncaptcha_woot17.pdf)
* [Rojas-Lozano v Google](https://www.govinfo.gov/content/pkg/USCOURTS-mad-3_15-cv-10160/pdf/USCOURTS-mad-3_15-cv-10160-0.pdf)
* [Exploring User Interaction with Modern CAPTCHAs](https://escholarship.org/uc/item/6rc989dw)
* [Practicality analysis of utilizing text‑based CAPTCHA vs. graphic‑based CAPTCHA authentication](https://link.springer.com/article/10.1007/s11042-023-15586-5)
* [Hacking Google reCAPTCHA v3 using Reinforcement Learning](https://arxiv.org/pdf/1903.01003)
* [I’m not a human: Breaking the Google reCAPTCHA](https://www.blackhat.com/docs/asia-16/materials/asia-16-Sivakorn-Im-Not-a-Human-Breaking-the-Google-reCAPTCHA-wp.pdf)
* [Dazed & Confused: A Large-Scale Real-World User Study of reCAPTCHAv2](https://arxiv.org/pdf/2311.10911)
* [The Sharing Economy and the Edges of Contract Law: Comparing U.S. and U.K. Approaches](https://scholarship.law.slu.edu/cgi/viewcontent.cgi?article=1005&context=faculty)

Articles and Websites:

* [Google's new CAPTCHA security login raises 'legitimate privacy concerns': Business Insider](https://www.businessinsider.com/google-no-captcha-adtruth-privacy-research-2015-2)
* [reCAPTCHA.sucks](https://recaptcha.sucks/)
* [You (probably) don’t need ReCAPTCHA](https://near.blog/you-probably-dont-need-recaptcha/)
* [Google reCAPTCHA Service Isn’t Secure – It Might Be Exploiting Users: Tech Report](https://techreport.com/news/googles-recaptcha-isnt-secure)
* [US government requests for personal data to Google](https://transparencyreport.google.com/user-data/overview?hl=en&user_requests_report_period=series:requests,accounts;authority:US;time:&lu=legal_process_breakdown&legal_process_breakdown=expanded:0)
* ['FYI. A Warrant Isn’t Needed': Secret Service Says You Agreed To Be Tracked With Location Data](https://www.404media.co/fyi-a-warrant-isnt-needed-secret-service-says-you-agreed-to-be-tracked-with-location-data/): 404 Media
* [Google's reCAPTCHA favors – you guessed it – Google: The Register](https://www.theregister.com/2019/06/28/google_recaptcha_favoring_google)
* [reCAPTCHA Privacy — Is it an Oxymoron Now?](https://www.reflectiz.com/blog/recaptcha-privacy/)
* [Initial attempts at reverse engineering noCAPTCHA reCAPTCHAs](https://web.archive.org/web/20190929233118/https://github.com/toogle/InsideReCaptcha)
* [US v Google Antitrust Hub](https://www.usvgoogleads.com/)

Specific claims:

* In 2012, hackers were able to get bots through with a 99.1% success rate. [[here]](https://en.wikipedia.org/wiki/ReCAPTCHA?utm_source=chatgpt.com#:~:text=On%20May%2026%2C%202012%2C%20Adam%2C%20C%2DP%2C%20and%20Jeffball%20of%20DC949%20gave%20a%20presentation%20at%20the%20LayerOne%20hacker%20conference%20detailing%20how%20they%20were%20able%20to%20achieve%20an%20automated%20solution%20with%20an%20accuracy%20rate%20of%2099.1%25)
* in 2017 it V2 was cracked, 85% success rate. [[here]](https://uncaptcha.cs.umd.edu/)
* The code to do so was made public. and still works today. [[here]](https://uncaptcha.cs.umd.edu/#:~:text=All%20code%20and%20data%20from%20the%20WOOT%2717%20paper%20are%20available%20on%20the%20unCaptcha%20GitHub%20repository)
* According to researchers at UC Irvine, there's no practical difference between v2 and v3. [[here]](https://arxiv.org/pdf/2311.10911)
* A few months after launch, V3 was beaten with a 97% success rate. [[here]](https://arxiv.org/pdf/1903.01003)
* Google doesn't really tell us how reCAPTCHA works, besides "using an advanced risk analysis engine" [[here]](https://www.google.com/recaptcha/about/#:~:text=uses%20an%20advanced%20risk%20analysis%20engine) and [[here]](https://youtu.be/jwslDn3ImM0?si=-TsCJEF-HjB52JiC)
* New reCAPTCHAs run in the background [[here]](https://developers.google.com/search/blog/2018/10/introducing-recaptcha-v3-new-way-to#:~:text=reCAPTCHA%20v3%20runs%20adaptive%20risk%20analysis%20in%20the%20background)
* New reCAPTCHAs are invisible [[here]](https://www.independent.co.uk/tech/google-captcha-re-robot-image-recognition-artificial-intelligence-website-a7627331.html)
* New reCAPTCHAs only show challenges to bots and suspicious users [[here]](https://www.independent.co.uk/tech/google-captcha-re-robot-image-recognition-artificial-intelligence-website-a7627331.html)
* reCAPTCHA fulfilled a deal between Google and NYT [[here]](https://www.nytimes.com/2011/03/29/science/29recaptcha.html)
* “This is a way for Google to indirectly link activity outside of Google’s properties – collected under the guise of security – to Google's knowledge of that individual" [[here]](https://www.businessinsider.com/google-no-captcha-adtruth-privacy-research-2015-2#:~:text=%E2%80%9CThis%20is%20a%20way%20for%20Google%20to%20indirectly%20link%20activity%20outside%20of%20Google%E2%80%99s%20properties%20%E2%80%93%20collected%20under%20the%20guise%20of%20security%20%E2%80%93%20to%20Google%27s%20knowledge%20of%20that%20individual)
* "The implication is that Google offers a better web experience to Google Account holders, in a way that discourages choices that protect privacy." [[here]](https://www.theregister.com/2019/06/28/google_recaptcha_favoring_google/#:~:text=The%20implication%20is%20that%20Google%20offers%20a%20better%20web%20experience%20to%20Google%20Account%20holders%2C%20in%20a%20way%20that%20discourages%20choices%20that%20protect%20privacy)
* Does it make bot's job harder? No at all. The legacy flow is still available and old OCR bots can keep recognizing. [[here]](https://homakov.blogspot.com/2014/12/the-no-captcha-problem.html#:~:text=So%20what%20Googlesolve%20a%20challenge)