



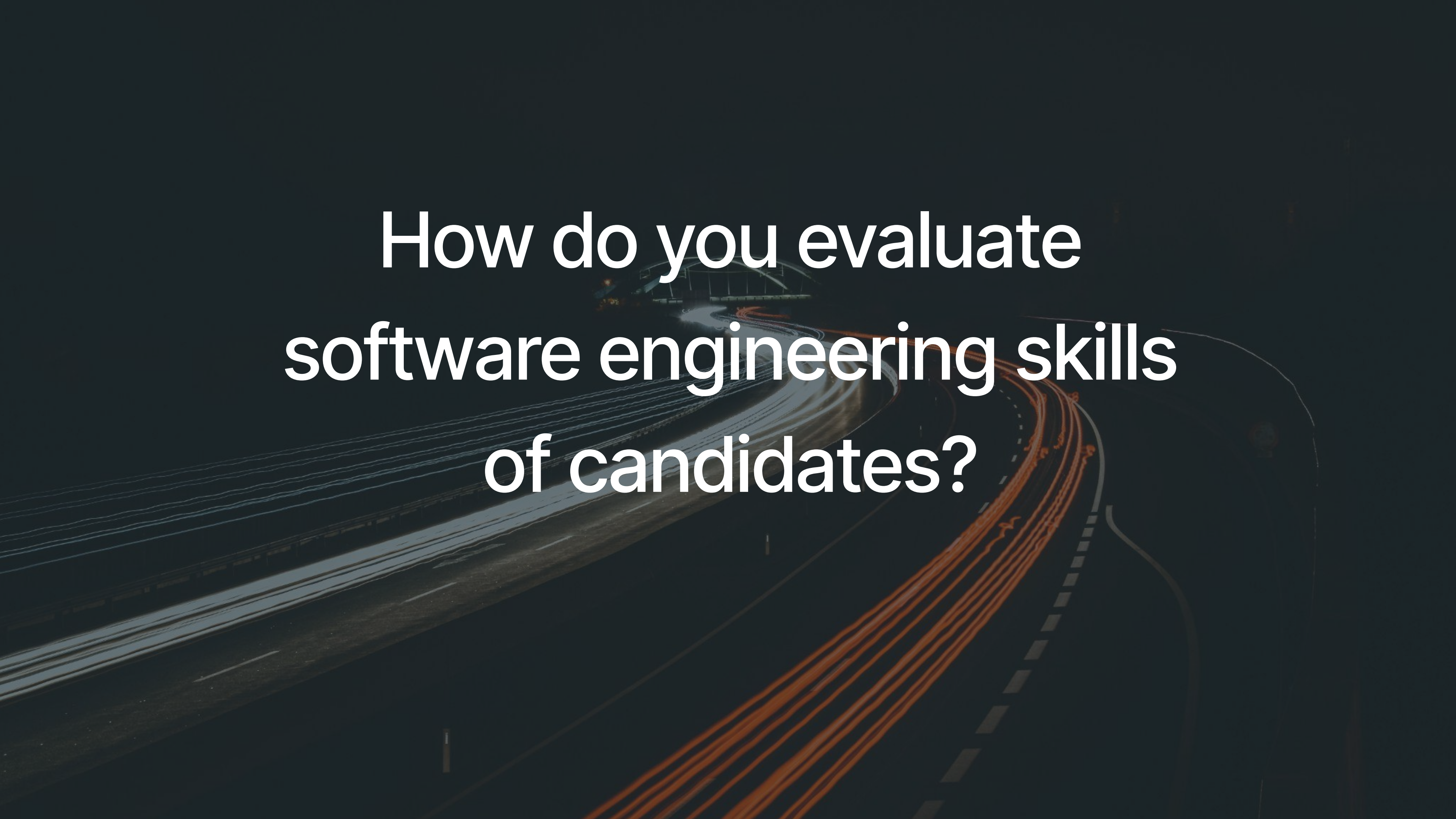
Better hiring with code review assignments

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How do you evaluate
software engineering skills
of candidates?

How to evaluate candidates' coding skills?

- Live-coding sessions
- Take-home coding assignments

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- Candidate portfolio review

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tons of excellent candidates don't have significant open-source contributions

How to evaluate candidates' coding skills?

- Live-coding sessions
- Take-home coding assignments



**Both live-coding
and take-home assignments
have severe limitations**

Live coding sessions

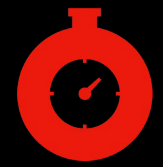
- ✓ Time-efficient for both candidates and interviewers
- ✓ Can be used at technical screening stage
- ✗ Artificial environment not representative of day-to-day work
- ✗ Candidates' emotional response affect results
- ✗ Only allow to evaluate small snippets of code
- ✗ Overly focus on correct syntax and coding speed

Take-home coding assignments

- ✓ Evaluate candidates under more realistic work conditions
- ✓ Can assess larger scale code than live coding sessions
- ✗ Time-consuming for candidates: risk of dropping out and poor candidate experience
- ✗ Time consuming for interviewers
- ✗ If assignment is simple, it can be completed effectively by AI large language models
- ✗ If assignment is complex, candidates may feel used for free labor
- ✗ Interviewer's subjectivity impacts candidates evaluation: how to compare very different but equally valid solutions?



Can we do better?



Code review assignments

Code review assignments

How do they work?

- Candidate is asked to review a pull request on their own time
- Candidate and interviewer discuss review during a follow-up interview

Not a new idea

- Gitlab has used them for a while*
- There are companies building tools for code review assignments

(*) The Gitlab handbook, Technical interviews: <https://handbook.gitlab.com/handbook/hiring/interviewing/technical/>

Code review assignments: advantages

- ✓ Time-efficient for both candidates and interviewers
- ✓ Evaluate candidates under realistic work conditions
- ✓ Allow more objective evaluation of candidates
- ✓ Assess candidates' written communication skills
- ✓ Assess candidates' ability to understand and debug code they did not write

Code review assignments at Fastly

Experience

- Used in last two opening in the Network Control and Optimization group at Fastly
- Candidates hired are doing really well
- Exceedingly positive feedback from candidates
 - Less stressful than live coding interviews
 - More respectful of their time than coding assignments
 - Learned something new from the process

Code review assignments at Fastly

Process

- Candidate is assigned code to review after screening and before final stage
 - review expected to take at most two hours
 - candidate is given at least few days to complete review
- Interviewer evaluates code review against a checklist and identifies areas to cover in the interview
- Interviewer and candidate discuss candidate's review in 60 minutes interview

Code review assignments at Fastly

Pull request structure

- Self-contained ~300 line of Go code intentionally peppered with bugs, anti-patterns and overall questionable design and implementation decisions
- Subject is a simplified version of a problem previously solved in group
- Description of pull request provides extensive context on the purpose of the code, how the code will be used, expected load and SLAs it must meet
- Instructions stress that the code will be part of a mission critical system, will be deployed to production upon merge and the candidate will be part of an on-call rotation providing 24/7 coverage

Tips for implementing code review assignments

- Provide as much context as possible about the code to minimize ambiguity on expectations
- Be very explicit that code has bugs/anti-patterns/questionable decision
 - Reassure candidates that they won't find code like this after joining
 - Candidates can feel comfortable making comments without offending future colleagues
- Be mindful about accidental honey pots: small issues that divert candidates focus
- Limit the number of issues in the code: reviewer fatigue

Challenges of code review assignments

- ✘ Not suitable to be used in technical screenings
- ✘ Require additional effort if role is language-agnostic
- ✘ Assignments require adjustment based on role level of seniority

Summary and main takeaways

- Commonly used live coding and take-home coding assignments have major limitations
- Code review assignments overcome their main limitations
- Very positive experience so far in Network Control and Optimization group at Fastly
- Tips to implement effective code review assignments in your team/organization