David Nesting

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Who I Am

I enjoy edge cases and thinking at scale. My interests range from hacking electronics to public policy.

Qualifications

- Can understand and troubleshoot complex systems (Google, healthcare.gov), at all layers of the stack
- Can design, build, and support systems that are available, scalable, and secure against common threats.
- Can lead teams of engineers
- Can write efficient and readable code (Go and Python are my go-tos, but also C++, Java, bash)

Experience

US Digital Service

Director of Engineering from 2017-present:

- Mentored a community of ~50 engineers spread across several agencies
- Supervised work assignments for 25
- Recruiting, speaking at round tables, conferences
- Helped define and continue to maintain the engineering hiring process, and have conducted dozens of interviews for engineering and lead roles
- Data analytics and other engineering for the above goals

Engineer from 2014-present. Projects included:

- Healthcare.gov, on the SRE team, acting in shifts as incident commander and lead troubleshooter, while also advising the CTO and Secretary of HHS
- Login.gov, as the devops lead, improving the infrastructure for login.gov as it launched and grew, with an emphasis on availability and security
- Refugees, with the Department of State, improving the case management system

- College Scorecard with the Department of Education, performing data mapping, identifying and fixing critical performance problems and proving the ability of the service to scale
- Internal tools, record retention pipeline, group chat
- Rapid-response to incidents at multiple agencies, deep dives at agencies such as the Army, State, and DOJ, consultation, and other policy work
- One time I wrote an ASP parser and data flow analyzer to automatically generate code fixes for thousands of vulnerabilities in a government system

TS/SCI

Google

Site Reliability Engineer from 2007-2014 (7.5 years), on the logs infrastructure team, managing all layers of the logs infrastructure, including hardware, OS, and service. Supported data volumes of "many terabytes" and the workload of thousands of analysis users consuming "many thousands" of CPU cores. Projects included:

- 24x7 on-call responsibilities, addressing problems ranging from network issues, failed roll-outs, hardware faults (bad CPUs, RAM), misbehaving users, etc.
- Maintain and iterate on systems that ensure data integrity (strong assurances against tampering)
- Maintain and iterate on systems that ensure privacy commitments to our users were being met (anonymization, retention limits, user-requested deletion, etc.)
- Maintain and iterate on systems that controlled access and made data available to authorized analysis users
- Built a system to manage large cross-data center data migration efforts (at the petabyte scale)
- Built a system to preserve/segregate data subject to litigation
- Participated in efforts to reduce privileges and increase security of the infrastructure
- SRE hiring, conducting hundreds of engineering interviews

AT&T

Technical Architect and similar roles, from 1999-2007 (8 years), on the production support team:

- Technical lead on the 24x7 operations team supporting www.att.com and similar sites
- Sole team member with development background, so I wrote a lot of tools and software to help automate our work, and was the only team

member who could meaningfully engage with the dev teams to troubleshoot problems
- Significant role with AT&T's "shadow IT", spending a lot of time trying to make software engineering suck less, given AT&T's engineering- and innovation-hostile corporate environment.

Texas Networking, Inc.

Engineer, from 1995-1999 (approx.), as a member of the engineering staff. This was a small/startup regional ISP.

- Technical helpdesk, troubleshooting internet, networking, and client system problems
- Customer-facing documentation
- Writing small tools and internal servers to automate tasks, monitor infrastructure, etc.

Education

Texas A&M, Computer Engineering major, 1998