Zachary Hirsch, software engineer

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Experience

Google, Inc.   Mountain View, CA
Staff software engineer   March 2010 to present
- Automatic, Google-wide capacity planning (patent pending)
  - Develop tools for massively parallel forecasting of user demand.
  - Tech lead for tools that convert demand forecasts into capacity plans using linear and mixed integer programming.
  - These tools generate capacity plans for the majority of Google's machine resources.
- Site reliability engineering
  - Carry a pager for Google's content delivery network and YouTube's serving infrastructure.
  - Develop features for the backend metadata serving and storage systems, e.g. strong consistency on top of eventually-consistent replicated bigtables.
  - Work closely with other developers to ensure that changes will seamlessly work in production.
  - Created demand forecasts for the CDN, used to determine where to increase capacity and build new points-of-presence at the edge's of Google's network.
- Use c++, python, go, linear programming, mapreduce, bigtable, other Google-specific technologies.

VMware, Inc.   Palo Alto, CA
Senior member of technical staff   June 2006 to March 2010
- Build infrastructure team tech lead, focused on automation and maintainability.
  - Set goals and directed work for junior team members.
  - Set long-term technical direction for the build infrastructure team.
- Developed a highly scalable build harness, which performed 100s of nightly builds, 1000s of personal builds, and countless continuous integration builds each day.
- Developed a collection of web sites, APIs, and command-line tools for accessing information about builds and build machines.
- Hacked on Makefiles to dramatically increase performance: reduced a two hour build to twenty-five minutes.
- Built cross-compilers and 3rd party libraries used in every build.
- Used python, perl, make, django, perforce, postgresql, unix tools, djb's daemontools.

Education

University of Michigan   Ann Arbor, MI
B.S.E. Computer Science   September 2003 to April 2007
- Graduated magna cum laude, member of Eta Kappa Nu honors society.
- Awarded Dean's List and University Honors five times.

References

Available upon request.