Michael Gundlach
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SUMMARY OF QUALIFICATIONS

Technical:

- Creator of **AdBlock**, the **#1 most popular browser extension** for Chrome and Safari
- **Google engineer** – served as primary oncall for AdWords and AdSense
- **Masters Degree** in Computer Science, **4.0 GPA**
- Eleven years' professional coding experience in **Python, Javascript, C#, C++,** and **SQL**
- Extensive experience supporting **multi-thousand-machine distributed applications**

Personal:

- I place value in **honesty** and strong **interpersonal skills**,
- I can **clearly communicate** the high and low-level details of a project to a technical or non-technical audience, and
- I get my kicks out of building software that is a true joy to use.

WORK EXPERIENCE

(from most to least interesting)

Software Engineer, Google.com

Google Inc., Dublin, Ireland (May 2005 - Aug 2006)

At Google I kept the global Google Adwords (search results ads) and Adsense ("Ads by Goooooogle") networks alive and ticking.

- Highlight of my "20% time":
  - Designed, implemented, deployed, and supported a **Greasemonkey + Javascript tool** used by **over 600 Googlers**
    - Invented **a new Greasemonkey design pattern** in the process
    - …which became the **principal design goal** in **Chrome's extension framework**
    - Received a Google Peer Bonus, over 100 "thank you" emails, and an offer to **rename a son** to "Michael Gundlach"

- When on call:
  - I was point man for resolving **all Ads network problems across the globe**
  - Extinguished countless fires requiring quick thinking, quick diagnosis, quick communication, and quick resolution

- When not on call:
  - Configured, deployed, debugged, improved, and monitored **large-scale distributed applications** (thousands of machines)
  - **Upgraded** several such large-scale systems to a new cluster management platform
    - **Coordinated multiple remote teams** to ensure smooth transition
    - Accomplished each instance with **zero downtime or impact to external users**
  - **Trained new coworkers** through group firefighting, "tech talks," and interview shadowing
  - Wrote **Python, bash, and Javascript tools** to automate mundane tasks

- In my copious leftover time:
  - Gave **64 technical interviews**
  - Filed over **300 bug reports** against other projects
  - Wrote code to convert sticks of butter for clueless chefs

Author of **AdBlock**
(getadblock.com)

Created the **most popular extension for Chrome and Safari,** with over **20,000,000 users**.

- Interviewed in the **New York Times**

- My users give rave reviews about how devoted I am to building an excellent product
  - Optimized **Javascript** code for Chrome to **shave milliseconds** off of run time
  - Added new features **faster** than users' browsers could update
  - Built **Python monitoring tools** to track installation rates, popularity, and user feedback

- Um, lots of people use it? Try it yourself, maybe you'll like it.

Python Team Lead and Software Engineer
Xiocom Wireless (Aug 2008: 9 month contract)

Built software to help **bring phone and internet service to third-world countries.**

- Wireless Network Designer (Python TurboGears + Google Maps + AJAX):
  - Single-handedly built in **6 weeks**, but was shown to Board as **6 months'** funding highlight
  - Calculated optimal hardware, cost of deployment, signal strengths, coverage areas
  - Heavy use of **advanced Google Maps API features** (e.g. custom Overlay classes)
- Network Device Facade (Python):
  - Unified configuration process for diverse routers / WAPs under a **single RESTful API**
  - Designed **Strategy-pattern framework** to map individual device APIs to unified API
  - Google Maps frontend: e.g. click on a Cisco WAP in Rwanda and view connected users
- Many others:
  - A **jQuery + ExtJS** JS library; **Ruby on Rails middleware**; a Python **SMS gateway**; etc

As **team lead**, I developed the engineering group into a mature organization.

- **Trained and mentored** coworkers
  - Drove use of **time estimates, release schedules**, wikis, documentation, etc.
  - Standardized production machines
  - **Coached managerial staff** on conflict resolution and communication
  - Taught programmers Python, patterns, scalable design, agile development, and the benefits of Python module reuse vs. copy-and-paste coding

- Led in architectural decisions
  - Designed Network Management Platform as loosely-coupled RESTful microapps
  - **Reduced risk and time-to-launch** by determining gradual upgrade path from legacy management platform to Python nextgen platform
  - **Invented ResourceProxy pattern**, allowing Python ActiveRecord objects to join to ActiveResources transparently, making coding a breeze **(I'd love to tell you about it!**)

Software Engineer, CareerBuilder.com
(Jun 2009: 9 month contract)

Contracted to **replace CareerBuilder's search engine** under a tight deadline.

- Created Python tools to **productionize the search environment.** Some examples:
  - A Python **cluster deployment system** to build live clusters from a configuration file
  - A script to execute work in parallel across a cluster of machines
  - A Python **load testing framework** to stress test and profile search engine clusters
- Extensively tested and configured Apache Solr systems
  - Performed **58 timing experiments** in Python framework to optimize Solr performance
  - Patched Solr in Java to support **multilingual document analysis**
  - Used Python framework to analyze linguistic interpretation of documents
  - Created Javascript system to analyze stemming of search terms
  - Wrote **genetic algorithms** in Python to solve a 6-dimensional optimization problem

Chief Technology Officer / Chief engineer
KateAspen.com (Dec 2006 - Nov 2007)

As CTO I was responsible for constant improvement of this 70 person ecommerce company's IT practices.

- **Got things done** repeatedly and tenaciously.
  - **Returned company's ecommerce site to** #1 on Google after six months of low ranking
    - Found the three responsible bugs shortly after joining company
    - Increased annual revenue by at least **$2 million**
  - **Solved technical mysteries** for legacy software team when necessary
    - Detected race conditions, corrected character encoding errors, etc.
  - Added **versioning, rollback, documentation, and monitoring** to development process
  - **Eliminated 80% of hosted backup fees** through improvement of backup schedule
  - **Trained employees** on project planning, technical interviewing, scalable design, etc
  - Successfully **created a culture valuing well-planned IT strategy** over "quick-and-dirty" tactical changes

As chief engineer I was responsible for overhauling the company's unscalable software and production environment.

- Single-handedly rebuilt **ASP.NET and SQL 2005** ecommerce platform, **releasing on schedule**.
  - Highly maintainable code with **thorough documentation**
  - **Two-way URL rewriting** to preserve PageRank of previous platform's URLs
  - Aggressive **caching system** for improved database performance
- Implemented KateAspenShops.com, where users create ecommerce stores on the fly.
  - Coordinated marketing, graphic design, legal, and software teams to a **successful release on schedule**
  - Designed and coded the e-commerce platform which is **scalable to 20,000 stores**
  - Uses wildcard SSL certs, splitting databases, and some neat tricks to handle the scale
  - I'd love to discuss this more!

C# Software Architect
Smiths Medical (Feb 2008: 3 month contract)

Contracted to deliver the **most complex components** of a new version of a medical device application deployed in hundreds of hospitals worldwide, **within a tight FDA deadline**.

- **Saved babies** (really): quickly analyzed **life-threatening bug** discovered in deployed neonatal ICU devices
  - Manager requested a tool within **two weeks** to identify affected hospitals
  - I promised delivery **by 4PM** and delivered according to spec in 8 hours
  - Enabled company to immediately act to fix the problem

Separate from the life-saving incident, I:

- **Cleanly designed** and **thoroughly documented** all requested systems **within schedule**. Some examples:
  - Custom high-performance encrypted database (as FDA restricted 3rd party databases)
  - Data distribution system to obviate need for device firmware upgrades
  - Auditing system and UI to search device usage history

C# Software Engineer
CareCentric Inc. Next Generation team (Aug 2003 - Apr 2005)

Developed a 3-tier thin-client .NET application using **C#** and **SQL Server 2000**.

- Designed and implemented **all tiers** (UI, client, server, SQL, and schema) of:
  - **Security and authentication** system
  - Transaction input module (entry point for logic flow in system)
  - Service Price Calculator **(most complicated business logic in product)**
  - Per-user permission assignment system

- **Improved team's programming techniques**
  - Taught team more powerful aspects of **object-oriented programming**
  - Introduced concept of **refactoring** complicated code
  - Taught methodical **debugging** practices

Research Assistant
Power Aware Wireless Networking Lab, University of GA (Nov 2000 - Mar 2003)

Developed for **Linux** in **C++** a **power-aware wireless network proxy** to reduce energy usage on wireless devices.

- Created a **dynamic scheduling protocol** to manage multiple devices of varying bandwidths
  - Reduces energy usage better than any existing protocol, including 802.11b power-saving mode
  - Designed and developed a **wireless device simulator** in **bash and C++** to determine energy savings

HONORS/AWARDS

Google Peer Bonus, nominated by coworkers for writing a tool to make editing documentation easier
Google Peer Bonus (another), for writing a handy Greasemonkey script installed by 600 Googlers

Most Popular Extension for Google Chrome (AdBlock, >250,000 users)

Presidential Scholar (4.0 GPA), 1999, 2001, 2002
Best Paper, Parallel and Distributed Computing, Spring 2001
National Merit Scholar, 1998 - 2002
UGA University-Wide Assistantship, 2001, 2002: most prestigious UGA graduate award

EDUCATION

Master of Science, Computer Science, Fall 2002, University of Georgia.
Bachelor of Science with Honors, Computer Science, Spring 2002, University of Georgia.

PAPERS

A Power-Aware Scheduler for Streaming Multimedia Clients. Michael Gundlach, David Lowenthal, Surendar Chandra. Submitted to NOSSDAV 2003.

Dynamic, Power-Aware Scheduling for Mobile Clients Using a Transparent Proxy. Michael Gundlach, Sarah Doster, David Lowenthal, Scott Watterson. Presented at ICPP 2004.