Sergey A. Grabkovsky

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Medford, MA
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Summary

Software Engineer with 7 years of hands-on professional experience architecting, designing, testing, implementing, and repairing large complex systems. Flexible, detail-oriented, willing to own code, diligent, and not afraid of refactoring when necessary.

Technical Skills

Angular 1 & 2, AWS, Bash, Bazel, C/C++/C++14, Django, Flask, Java, JavaScript, jQuery, Git, Google Closure, GWT, Haxe, Hibernate, HTML5 Canvas, Linux, Node.js, OpenGL, Perl, Python, Ruby, Scheme, SQL, SQLAlchemy, SVG, Three.js, TypeScript

Professional Experience

Shotput, Senior Software Engineer — April 2016 – April 2017

San Francisco, CA (remote)

- Define and set priorities for the sales and operations team based on the technology roadmap.
- Scale the logistics system to a peak of approximately 3,000 orders a day.
- Established good coding standards and testing as a culture, raising code coverage from 0% to 76%.
- Created a repository for test data to minimize boilerplate code to lazily create the data, decreasing the total runtime of the test suite by 4x.
- Set up a Jenkins integration server to gate commits into master.
- Specced and implemented a secure and robust webhook notification infrastructure.
- Designed and implemented an automated, self-correcting inventory management system to track inventory throughout the logistics pipeline.
- Architected, designed and implemented a user permissions system on top of an existing complex architecture to allow fine-grained control over what users can do.

Google, Software Engineer — June 2011 – April 2016

Cambridge, MA

- Co-wrote a patent application for efficient proximity detection.
- Wrote an efficient implementation of the Bentley-Ottmann line-set intersection algorithm, while dealing with floating point precision issues.
- Revised variable-width drawing algorithm for Drawings in Google Keep that reduced bugs, visual artifacts and overall improved appearance of rendered strokes.
- Communicated regularly with internal and external users of Google Charts via Google Groups and later GitHub Issues, helping them with bugs, workarounds, and implementations.
- Architected, designed and implemented a graph-based data pipeline framework using Google Web Toolkit (GWT) that would run in browsers, iOS, Android, and desktop Java that supports asynchronous execution across all platforms.
- Owned and managed the MapReduce map data processing pipeline, and rewrote it in FlumeJava which resulted in a better-tested, more maintainable, and more efficient pipeline.
- Owned and developed many features of the Google Charts GeoChart, such as text markers, map projections, and many bug fixes.
- Helped launch Google+ Web Badges.
- Developed and maintained a new generation of Google Charts, including a new column chart, scatter chart, and line chart.
- Developed critical features in existing Google Charts, like trendlines, better interactivity and customization features, as well as low-level rendering features and fixed many bugs.
- Refactored the +1 button into reusable widget components.

Amazon.com, Software Development Co-op January 2009 – June 2009
Seattle, WA

- Organized and developed a project to improve product classification using Amazon's Mechanical Turk in Java using Hibernate.
- Organized and developed a project to help the sales team with locating websites to contact using the Mechanical Turk in Java.
- Streamlined the registration pipeline for Product Ads in Perl Mason.

AmpIdea, Co-Founder September 2007 – June 2009
Boston, MA

- Architected and implemented a general widget system in Python for touchscreen-based devices, complete with momentum scrolling, transitions and animations to mimic the then-new iPhone interface, which included managing text rendering and touched upon line breaking and typesetting.
- Used our custom built widget system to create a smooth and beautiful interface for a touchscreen-based device meant to display relevant information in the back of a taxicab.
- Designed and developed a module to interface with various legacy taximeters in Python, which required using serial ports and understanding the low-level protocols they used.
- Built an interactive zoomable map based on tiles from OpenStreetMap.

EMC, Software Development Co-op January 2008 – June 2008
Southborough, MA

- Wrote a Java application to parse a single text help file and produce and view a searchable and organized data set.
- Fixed bugs in the driver for large server racks in a monolithic C codebase.
- Tested the performance of large collections of fast 15,000 RPM fiberoptic hard drives.
- Wrote Perl scripts to help with development and consolidate testing data.

Education

Northeastern University, Boston, MA Graduated May 2011
College of Computer and Information Science Dean's List
Bachelor of Science in Computer Science, Cum Laude
Master of Science in Computer Science

Personal Projects

- Wrote a Scheme interpreter in Java as a non-required component for a class project.
- Implemented a tail recursion eliminator macro in Haxe.
- Developed many 3D experiments using Three.js, including a rotating globe, 3D pipes, procedural terrain generators, and a voxel editor that uses marching cubes.

Personal Interests and Skills

Piano, guitar, design, linguistics, philosophy, psychology, puzzles, travel.
Fluent in Russian