ALEXANDER CARLTON
Designer / Developer / Datatician

Cupertino CA | 408.887.5555 | AlexanderCarlton@fisodd.com

Professional Summary

Designer of systems and websites, focused on effective delivery of useful data to end users. Implementing JAMstack technologies to remove the complexities that inhibit availability of information. Delivering solutions ranging from single element visualizations up through large web properties covering thousands of pages and a million objects.

Developer of analysis tools and performance benchmarks across the full scale of systems from smartphones to servers. Experienced performance analyst investigating bottlenecks down to the hardware-level, inside OS kernels, through databases and middleware stacks, over networks and across application codes. Understands changing requirements as well as existing processes in order to craft tools that robustly fill the necessary gaps with sustainable solutions.

Datatician adept at finding ways to make information accessible and understandable. Extensive experience developing metrics and visualizations that characterize and communicate the underlying system behavior, now applying these lessons to the tools and techniques from new data science capabilities. Skilled visualizer of complicated datasets, finding relevant information and simplifying overviews in R, or through Tableau, or even in raw D3, to enable insightful views that can pull actionable insight from raw results.

Career Progression & Notable Contributions

Fisodd.com | 2016 –

PRINCIPAL

- Working with data-science tools and environments (e.g. R, Tableau, JMP) and languages (e.g. Scala, Python Pandas) to deliver visualizations as images or interactive D3 webpages.
- Project based work in web interfaces to information and data.

    Notable Contributions:
    - Conversion and update of a multi-thousand page website; implementation of a new publication system and migration of all the old raw-HTML materials to clean Markdown-based texts; including reimplementation of graphics and layouts and testing of converted site.
    - Interactive web portal implemented in D3 enabling users to browse, search, sort, and display results from more than a dozen datasets spanning more than one hundred thousand separate measurements.

Intel Corporation | 2003 – 2015

SENIOR PERFORMANCE ANALYST (Smartphones: 2011-2015)

- Led a team of 6 to 9 engineers and technicians whose work is delivered to company executives, across R&D group managers, and to all parts of the field sales teams; measure and analyze ~100 devices/year.
    - Started this team as a single engineer creating a new lab out of unused basement space. Within 2 years began delivering "must read" materials to company executives and earned the company's commitment to concentrate all related measurement and analyses in our team.
    - Developed internal tools (e.g. trace processing, storage, and visualizations) now replicated in labs in different divisions across the company.
- Developed new benchmarks and lead cross-industry benchmark standards committees.
    - Initiated development at SPEC (Standard Performance Evaluation Corporation, spec.org) and EEMBC (Embedded Microcontroller Benchmark Consortium, eembc.org) to develop smartphone benchmarks.

Prior Growth at Intel Corporation:

Senior Performance Engineer (Laptop PCs: 2003-2010)

- Analysis: Delivered industry-leading benchmark results for each generation of Intel's mobile processors.
- Development: Chaired MobileMark Committee at BAPCo (2003-2006).

Career Progression & Notable Contributions, Continued

Hewlett-Packard Company | 1987 - 2002

SENIOR PERFORMANCE ENGINEER (1996-2002)

- Analyzed and tuned performance of HP server products (proprietary and commodity servers and software).
- Lead representative to SPEC standards committees, developed and released industry-changing benchmarks.
- Crafted tools and methodologies that were used across performance teams to drive performance measurements and analyze results.
- Performance architect for HP adaptive data center solutions.

Notable Contributions:

- Delivered world-leading TPC and SPEC benchmark results across 10+ generations of HP Server products (HP 3000 Mini Computers, HP PA-RISC Unix Servers, and HP NetServers). Consulted with internal and 3rd party (Oracle SQL, MS SQL, Informix) developer teams to remove performance issues that were uncovered by our ability to take systems beyond the reach of other teams.
- Founding Chairperson for SPECweb committee. Established new category of standardized web-server benchmarks that proved to be one of SPEC's most published benchmarks.

Prior Growth at Hewlett-Packard Company:

Manager: Managed performance team developing and analyzing "dot-com" solutions

Performance Engineer: Performance analysis in Unix Kernel Development team - SPEC Representative

Performance Engineer: Benchmarking on HP/UX and HP MPE/XL Systems - SPEC and TPC Representative

Software Engineer: Supported and enhanced low-level internals for HP's SQL database products

Professional Development

Education:

Masters of Science, Computer Science | University of Vermont

Bachelors of Science, Computer Science | University of Vermont

Bachelors of Arts, English | University of Vermont

Volunteer Activities:

<u>SPEC Editor</u> (Standard Performance Evaluation Corporation): Board-appointed officer for many years responsible for external publications (e.g. www.SPEC.org), as well as ensuring internal tools/services (wikis, email, source control, archives, et al) scale to satisfy the needs of member companies and universities worldwide.

<u>Director and Coach for Youth Soccer</u>: Director for Pacific Coast Spring Soccer League and for Madison League, board member for both Area 2J and Region 35 of AYSO; working with dozens of teams over the last decade (competitive clubs, school teams, and recreational) up through the U19 age division; AYSO and USSF certified coach.

<u>Educational Electronics</u>: Helping young engineers find their connection to technology utilizing open-source environments with Raspberry Pi, Arduino, and other tools.