Darshan Sanghani
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Objective:

Applying my skills in programming, software and infrastructure development. With a passion to build *complex yet simple*, *intelligent*, *efficient* platforms to facilitate accelerated growth.

Education:

UNIVERSITY OF ILLINOIS   Urbana-Champaign. IL
Bachelor of Science in Computer Science, Dec 2012.
Related Coursework:

- Software Engineering I/II: Applying software analysis & design techniques to make world-class software.
- Data Structures: Learning, designing, implementing various data structures used in computer science.
- Fundamental Algorithms: Fundamental techniques for algorithm design and analysis.
- Embedded Systems: Learning very low level programming in order to interact with micro-controllers.
- Other relevant courses such as Programming Languages & Compilers, Systems Programming, Computer Architecture, Theory of Computation, Database Systems. Graduated on finishing *Software Engineering Courses*: A set of courses to increase proficiency in various industry level software development technologies and paradigms.

Technical Proficiency:

- Programming Languages (Active): Java, Go, Python.
- Programming Languages (Used in Past): C, OCaml, Objective-C, PHP, Javascript.
- Frameworks/Libraries/Environments: OCI, AWS, Azure, OpenStack, Puppet, OpenVSwitch, Terraform, Logstash, Kibana, Zabbix, Node.js, Allegro, jQuery and many more.

Professional Experience:

Oracle Cloud   Santa Clara, CA
Senior Member of Technical Staff   Sept '17 – Present

- Help *enhance the product portfolio* offered within Oracle Cloud Infrastructure (OCI) public cloud.
- Architect, develop and deliver product offerings on Oracle Cloud Infrastructure (OCI).
- Driven design and development within OCI Service Gateway through *initial design, architecture reviews, development, limited availability to global availability*, while supporting and improving operations.
- Developed and owned *high throughput data-replication* for packet's session persistence and high availability within our services.
- Developed and owned *data processing, caching and distribution service* for faster state convergence from control plane to data plane.
- Designed and contributed to our public service's *API specifications and public SDK* delivery, member of the API review board.
- Developed and owned a service for *canary testing, usability testing and failure identification* for our services across all availability zones, integrated it with our SRE toolset for telemetry.
- Define the product roadmap, release versions and feature development timeline to provide engineering estimate for better resource management.

Medallia Inc.   Palo Alto, CA
Senior Software Engineer in Cloud Engineering   March '16 – Sept '17

- *Team lead for Cloud Infrastructure:* Breathing fresh air and innovation to address SaaS centric cloud infrastructure software through non-conventional but scalable solutions.
- Designed the complete infrastructure for AWS based multi-AZ Mesos/Aurora Docker container cluster management, a problem not everyone has solved yet.
- Design and development of a serverless "multicast replacement" *route sharing protocol* for container clusters based on *gossip-style membership* based on the *SWIM*, with *automated touchless router failovers*. This solves container cluster route sharing problem on public clouds (AWS, GCE) without the need for SDN overlays.
- Develop and scale *serverless, RPC-enabled Docker volume drivers* for AWS for a unique way to manage block storage.
- Coined, Designed and developed an *Infrastructure Model Manager*, this is the *first of its kind* tool for packaging, managing and one-touch deploying of entire distributed systems patterns/model.
- Helping *guide a team of bright developers* to decompose a problem into components, engineering solutions with them and encouraging vision and ownership.

eBay Inc.   San Jose, CA

Software Engineer in Cloud Engineering   Feb '13 – March '16
        • *Core cloud networking team:* architected and built efficient cloud services (*LBaaS, DNSaaS*) and backend *SDN* (control plane and data plane) networking; to be used by the entire eBay Inc.
        • Architecting in house, developing and also *contributing to the community* Designate project (OpenStack *DNSaaS, Launchpad ID: darshan104*).
        • Planned, built an automated framework to *reduce cloud deployment time* from a month to a few hours.
        • Implemented a robust metric collection system and integration with Zabbix to *have 24x7 monitoring and alerts.*
        • Developed numerous configuration modules in *Puppet* for automated OpenStack components.
        • Constantly thrived on adding optimizations*, scalability fixes*, features across cloud components, mainly *networking* and *compute*; along with *periodic contribution to the community*.

Computerized Assessments & Learning   Lawrence, KS
Software Developer Intern   Summer 2012.
        • Responsible for writing the foundations of porting the in-browser *JavaScript* exam engine to mobile platforms (specifically iOS).
        • Decided on minimizing dependency on native mobile frameworks to facilitate quicker and uniform expansion.
        • Came up with & added new features like inline video playback, audio responses (w/ uploading).
        • Self implemented a better and more responsive audio-level metering feature using *transformation matrices and interval mapping*, thus also reducing the dependency on third party libraries.

QLess Inc.   Altadena, CA
Part time Software Developer   Nov'11-May'12.
        • In charge of solving issues customers face with the product on-site. Differentiating a bug from a glitch, *identification, segregation and solution*.
        • Provide *preemptive support automations* to predict the nature of service degradation and their solution.

DebtManager   Champaign, IL
Creator   Summer 2011.
        • One of a kind iOS application to help students, friends and people manage informal/casual debts.

Herd   Champaign, IL
Co-Creator   Spring 2011.
        • Application solving Facebook's 'find nearby friends' and 'events' use cases way before they even existed.

Personal Projects:
- HNUpvotes, a node application to filter the latest and the best from HackerNews.
- Built a gesture recognizer for Kinect to be integrated with media players to allow controls like play/ pause/ stop/ enlarge and others through hand gestures.
- Built a lyrics search engine using BM25 retrieval formula with Rocchio feedback, also implemented document clustering, query likelihood methods for experience, user also gets a link to the specific song on YouTube, this was achieved with YouTube API. This was done on LemurCGI search engine template.
- Experienced with SDN, specifically writing control logic for OpenFlow switches, NOX controllers and creating a virtual network topology using Mininet.
- Built a VoIP application from scratch in Python, using a SIP library (PJSip). The idea is to help musicians jam online; we plan on minimizing the latency issues by compressing the audio before dispatch.
- Built a flight scheduler application in Python, which feeds off flight info from a JSON file and analyses the data to find the shortest path (Dijkstra's algorithm), time of travel, cost etc.
- Game development using Allegro framework: Developed a cross-platform 2D tile based platform game using the Allegro 5.0 Framework with an in built sprite cutter and background transformer.
- Developed software for a chain of retail stores, for *gathering data & analyzing product motion* which helps in identifying which class of products are bought more and less at a particular time of the year or month under a set of field values like weather type, if any festival. Thus helping them manage inventory more profitably.
- *(These and more of my projects can be found on my **gitHub (handle: dtx)** and **Launchpad (handle: darshan104))***

Leadership and Activities:
- SMILE (NGO): Team Leader
  Led a team to create several educational games in Java, C++ to encourage virtual education in youngsters.
- Member of the ACM.
- Member and a Team Leader at AIESEC.