

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.
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Technical Proficiency:

- Programming Languages (Active): Golang, Python, Java, JavaScript.
 - Programming Languages (Used in Past): C, OCaml, Objective-C, PHP.
 - Database Systems: MySQL, NoSQL (Redis, MongoDB), PGSQL.
 - Frameworks/Libraries/Environments: AWS, OpenStack, Puppet, OpenVSwitch, Terraform, Logstash, Kibana, Zabbix, Node.js, Allegro, jQuery and many more.
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Professional Experience:

Medallia Inc.

Palo Alto, CA

Senior Software Engineer in Cloud Engineering

March '16 - Present

- *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.

Part time Software Developer

Altadena, CA

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

Creator

Champaign, IL

Summer 2011.

- One of a kind iOS application to help students, friends and people manage informal/casual debts.

Herd

Co-Creator

Champaign, IL

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.