Darshan Sanghani

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Objective:

> I believe in applying my skills in programming and software development on a professional level by growing with my employer and helping the end-user experience complex yet simple, intelligent, efficient software. Seeking a full-time opportunity after graduation.

Education:

UNIVERSITY OF ILLINOIS   Urbana-Champaign. IL

Bachelor of Science in <u>Computer Science</u>, Dec 2012.

Related Coursework:

- <u>Software Engineering I/II</u>: Software analysis & design, object-oriented or function based analysis and design.
- <u>Networking Lab:</u> Understanding and building server software used in various network infrastructures.
- <u>Data Structures</u>: Programming various data structures and making our own depending on needs.
- <u>Fundamental Algorithms</u>*: Fundamental techniques for algorithm design and analysis.
- <u>Principles of Management</u>: Learning the fundamental principles a manager needs to know to make decisions.
- Other relevant courses such as Programming Languages & Compilers, Systems Programming, Computer Architecture, Theory of Computation, Database Systems. Will graduate 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 (Advanced): Java, C, C++, Python, OCaml, Objective-C, SQL, PHP, JavaScript
- Programming Languages (Intermediate): C#, Ruby; (by taking initiative through online tutorials and documentation), MIPS and x86 based architecture
- Database Systems: MySQL
- Frameworks: AFNetworking, jQTouch, iWebKit, Allegro, (currently learning) Express.
- Operating Systems: MacOS X, iOS, Windows, Linux.
- IDEs: Eclipse, IDEA, XCode, Visual Studio.

Professional Experience:

Computerized Assessments & Learning   Lawrence, KS

Software Developer Intern   May'12-Present.

- • Responsible for writing the foundations of porting the current in-browser *JavaScript, HTML5, CSS3* (front-end) test engine to mobile platforms.
- • Decided on minimizing dependency on native mobile frameworks to facilitate quicker and uniform expansion to other mobile platforms in the future.
- • Iteratively developing the mobile application and simultaneously refactoring the *Java web application* test engine to better support mobile web-view features.
- • Came up with & added new features like inline video playback, audio responses (w/ uploading), accessibility tools to the test engine to broaden the possible question types.
- • 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.
- • *Interacting with User Experience, QA, analyst teams* during the planning and development phase to analyze use cases, infer requirements & making the application secure.

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*.
- • Analyse the issue and provide feedback to the customer with the best solution as soon as possible to resume normal functionality.
- • Observe the nature of the issues, and provide *preemptive support automations* to predict the nature of service degradation and their solution to avoid them in the future.
- • Write *front end scripts* for customers to manage configuration issues, *maintaining and updating the Java based back-end web application.*
- • This position also helped me understand the importance of *post-release cycle, CRM, and the principles behind reducing the cost of maintenance.*

DebtManager   Champaign, IL
Founder   Summer 2011.
- • One of a kind application on iOS to help students, friends and people with informal/casual debts.
- • My idea was to help the user record the money he owes and others owe him. I also designed a rating feature to rate the other person's credibility.
- • Worked on this application right from the scratch: requirement identification, data modeling, development, testing.
- • In the future I plan on developing the back end, setting up profiles and set up parameters to study user transactions for further improving user experience; also setting up an interface to electronic payment to ease transactions.

Herd   Champaign, IL
Co-Founder   Spring 2011.
- • A database system (CS411) design project, requiring use of MySQL and web-development.
- • An online application to help users plan events with an aim to feed new events and, changes to already made events to the user through a more reachable mean, like SMS, emails instead of signing into the website every time.
- • Ability to dynamically search events a user can go to using date, time, place, and username combinations for flexibility.
- • Feature enabling user to find another user at an event within a 0.5-mile radius of his/her current event by using Google maps API to help user meet friends/colleagues more often.

Personal Projects:
- Game development in 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.
- 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 LemurfCGI 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.
- SPIMBot: Wrote behavior code in MIPS for a robot that scoots around a 320x320 field scanning for tokens to collect.
- Developed software for a chain of retail stores using UML and C++, 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.
- *(Some of these can be found on my gitHub (handle: darshan104) to be checked out.)*

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.