Angad Singh

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Aspiring software developer with 1 year of experience hoping to find a career in areas such as machine learning and back-end development. I have a passion for writing efficient and clear code and always strive to exceed expectations.

Technical Skills

Languages:	Python (Expert), Javascript (Proficient), C# (Proficient), C/C++ (Proficient), Java (Proficient), SQL (Proficient), Bash (Proficient), MATLAB (Prior Experience)
Frameworks/ APIs:	Numpy (Expert), Pytorch (Proficient), React (Proficient), Node.js (Proficient), Blender (Prior Experience), Bootstrap (Prior Experience)
Technologies:	Linux, Microsoft Server, Hadoop

Work Experience

Technical Application Analyst | Tata Consulting Services **Feb 2019 – Current**

- Develop queries to give accurate reports of potential fraudulent transactions or missing transactions to assist with the development of the application.
- Develop scripts in order to help automate daily tasks. This includes execution of SQL queries and the automatic creation of spread sheets detailing issues in the system.
- Collaborate with other teams to organize major upgrades in order to improve the system performance without causing a major downtime to the system.
- Support production environment and resolved any failures or memory issues to ensure that the application was preforming as expected.
- Technologies: Python, Bash, PowerShell, SQL, Hadoop, DB2

Project Engineer | Evertz Microsystems **May 2018 – Jan 2019**

- Automated the pre-possessing and transcoding of assets in order for customers to play out videos to their respective users and clients.
- Developed the primary scripts for NBCU's non-linear delivery of assets to media service providers to transfer assets to various locations using different transfer methods, such as Signiant and Faspex.
- Refactored SQL queries and reduced run time of existing queries by 50%, in order to improve migration to a new DBMS.
- Utilized the Atlassian suite of tools (JIRA, Confluence) to maintain clear lines of communication with team members and project stakeholders, while operating using the SCRUM framework
- Technologies: JavaScript, Python, SQL, DB2, MariaDB, Git

Projects

Creative Flow+ Dataset | MATLAB, Python, Bash **Sept 2017 – Jan 2018**

http://openaccess.thecvf.com/content_CVPR_2019/papers/Shugrina_Creative_Flow_Dataset_CVPR_2019_paper.pdf

- Developed an optical flow dataset similar to MPI Sintel Dataset using the Blender Python API.
- Users would be able to create their own datasets with different stylized effects. This data set can then used with existing optical flow algorithms as training data or to test how well the algorithm generalizes.
- Developed scripts in bash that would help users automate the process of rendering batches of Blender objects.
- Developed scripts using the Blender API to randomize the camera placement in the scene in order to increase the size of the dataset.

- The project was published as a part of the 2019 IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) under the title of Creative Flow+ Dataset.

Group Finder | JavaScript, React, Node JS **May 2018 – Sep 2018**

https://github.com/Richmond-Truong/groupFinder

- Collaborated peers to create a tool that would help students post their personal projects in order to find like-minded team members.
- Created a Heroku PaaS to hold user data and theirs posts. Ensured that the web page was correctly pulling and posting data to and from Heroku .
- Developed front end UI using React for posting and viewing profiles. Collaborated with team members to improve the usability for the interface.
- Preformed user testing to ensure that all features were working and to receive feedback to help make the UI more engaging and user-friendly.

Riff Warrior | C#, Unity **Sept 2017 – Feb 2018**

https://github.com/singha95/RiffWarrior

- Cooperated with a diverse team of programmers, artists and musicians to create a third person action adventure game in the Unity game engine.
- Players would explore a maze to search for an exit. At the end there would be a final boss for players to defeat, which would be similar to a rock band song.
- Improved notes sync with music and improved accuracy of input detection so that the battle system was more responsive and matched the music that was playing.
- Created a tutorial for players to get accustomed to the game controls and to introduce players to the rhythm based battle mechanics.
- Performed user testing with other students to find game bugs and to receive feedback in order to improve gameplay and to find bugs in the game.
- Utilized the rock band controller for player movement and the battle system. The game was showcased at the Level-Up 2018, student games showcase, at the Design Exchange in Toronto

Education

Honors Bachelor of Science Specialist in Computer Science **Sept 2014 – May 2018**

University of Toronto

Focus in Artificial Intelligence

Relevant Courses:

Introduction to Machine Learning:

Introduces nearest neighbours, decision trees, and ensembles. The middle of the course introduces parametric models, including linear regression, logistic and softmax regression, and neural networks. Also introduces unsupervised learning, focusing in particular on probabilistic models, but also principal components analysis and K-means. Finally, reviewed the basics of reinforcement learning.

Introduction to Software Engineering:

Introduces the software development methodologies with an emphasis on agile development methods appropriate for rapidly-moving projects. Basic software development infrastructure; requirements elicitation and tracking; prototyping; basic project management; basic UML; introduction to software architecture; design patterns; testing.

Operating Systems:

Principles of operating systems. The operating system as a control program and as a resource allocator. The concept of a process and concurrency problems: synchronization, mutual exclusion, deadlock. Additional topics include memory management, file systems, process scheduling, threads, and protection.

Algorithm Design and Analysis

Standard algorithm design techniques: greedy strategies, dynamic programming, linear programming, network flows, approximation algorithms. Brief introduction to NP-completeness: polynomial time reductions, examples of various NP-complete problems, self-reducibility. Students will be expected to show good design principles and adequate skills at reasoning about the correctness and complexity of algorithms.