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 (Expert), 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, AWS, Hadoop

Work Experience

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

- Placed as TCS contractor to the Royal Bank of Canada to work on their Anti Money Laundering Systems and Fraud prevention system to assist with development and support of the systems.
- Monitored the Cloudera Hadoop cluster and resolved any environmental failures and memory issues to ensure that the application was preforming as expected.
- Created queries to give accurate reports of potential fraudulent transactions or missing transactions to assist with the development of the application.
- Create scripts in order to help automate daily tasks. This includes execution of SQL queries and the creation of Excel spread sheets detailing issues or irregularities in the system.
- Preform system upgrades in order to improve the system performance and to add features to the existing system.
- Technologies: Python, Bash, PowerShell, SQL, Hadoop, DB2

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

- Created scripts to automate the pre-possessing and transcoding of assets in order for customers to play out videos to their respective users and clients.
- Created the primary scripts for NBCU's non-linear delivery of assets to media service providers in order to transfer assets to various locations using different transfer methods, such as Signiant and Faspex.
- Created targeted 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**

- 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.
- Created scripts in bash that would help users automate the process of rendering batches of Blender objects.

- Created 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**
- Worked with peers to create a tool that would help students post their personal projects in order to find like-minded team members.
- Created a Mongo database to hold user data and theirs posts. Ensured that the web page was correctly pulling and posting data to and from the Mongo database.
- Developed front end UI using React for posting and viewing profiles. Collaborated with team members to improve the usability for the interface.

Environment Ray Tracer and OpenGL Shaders | C++   **Nov 2017 – Dec 2017**
- Implemented an environment ray tracer. Created different shaders for the local illumination model including Halftone shading, Cell shading, texture mapping, Phong Shading and Gouraud shading.
- Implemented the global illumination model and created multiple shapes including planes, spheres, prisms and compound shapes including cones.
- The program also supported the rendering of texture mapping, shadows and reflections.

Education

University of Toronto   **Sept 2014 – May 2018**
Honors Bachelor of Science Specialist in Computer Science,
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.