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## Ashish Tiwari

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### Education

Binghamton, NY	Binghamton University	Fall 2017 – May 2019 (Expected)
<ul style="list-style-type: none"><li>MS in Computer Science. GPA : 3.4</li><li>Coursework: Algorithms and Data Structures, Operating Systems and Programming System and Tools (Math) : Statistics, Regression, Statistical Machine Learning and Modelling and Discrete Mathematics.</li></ul>		
Mumbai, India	Mumbai University	August 2013 - August 2017
<ul style="list-style-type: none"><li>B.E. in Electronics Engineering. Graduated with First class.</li><li>Coursework: Artificial Intelligence, Robotics, Computer Networks and Architecture and C Programming.</li></ul>		

### Online Certifications

- Tensorflow** : Applied Machine Learning Models on Tensorflow with the help of Google Cloud.
- Data Science in Python** : Worked on real world data sets like Olympics using Pandas and Jupyter Notebook.
- Machine Learning by Andrew Ng** : Synthesized Machine Learning Algorithms and terms like Neural Networks, Support Vector Machines and Principal Component Analysis.

### Experience

Teaching Assistant	Object Oriented Programming	January - Present
<ul style="list-style-type: none"><li>Developed an optimizer software that will automatically download all the assignments from the github profiles of students, compile and run them which increased the throughput time for grading all the assignments by <b>60%</b>.</li></ul>		
Research Assistant	Data Science Lab	March 2018 - December 2018
<ul style="list-style-type: none"><li>Developed software for professionals in Biotechnology field which detects Introns (Regions inside gene) in genomes and automated approaches which reduced the time consumption for the process by <b>20%</b>.</li></ul>		

### Projects

- Standard Library Map of C++**: Utilized the features of C++ like Template Programming, Operator Overloading and Friend functions to design Map. Achieved the performance level by implementing the container using Skip Lists which provided the look up time as  **$O(\lg(n))$** , same as in actual `std::map`.
- Predicting App Installs on Google Play Store**: Preprocessed data set with the help of tests involving Variance Inflation Factor, Normality Assumption, Leverages, Outliers and Influential points. Prediction on the basis of Reviews, Ratings, Price, Category and Size produced coefficient for multiple regression (R-squared) as **0.82**.
- Email Classifier**: Classified emails into ham and spam using Algorithms like Logistic Regression, Naive Bayes and Decision Tree. Supervised training of Algorithms that used Probability Estimation, Bayes Rule and Tanh function for learning produced an accuracy of **90%** on test data set.
- Single Layer Neural Net for Binary Classification**: Implemented Perceptron with the help of sigmoid function and preprocessed data by removing all the false data lines and missing data by aggregation. The accuracy achieved with the help of feature selection was **80%** on test data set.
- Xv6 Kernel Hacking**: Implemented a Multi-level Feedback Queue (MLFQ) scheduler over default Round Robin Scheduling policy and designed a custom shell program to execute commands with the help of additional system calls. Designed a thread API that supported creation, joining and termination of threads.
- Standard Library Vector and Dequeue of C++**: Implemented the subset of Standard Library Containers in C using function pointers and made it generic with the help of structs so that it can be used for all data types. Designed the Dequeue in macros to avoid overheads and added extra feature which involved sorting.

### Skills

- Programming Languages** : C (Proficient), C++ (Proficient), Python (Intermediate), R (Basic), Matlab.
- Software Skills** : Algorithms, GNU-Makefile, Object Oriented Programming (OOP), Numpy, Pandas.
- Tools** : Unix, Vim, Latex, Git, Rstudio, Tensorflow, Scikit-Learn, GNU-Debugger, Valgrind.