**Probability Techniques**

Your Name (First M. Last)

School or Institution Name (University at Place or Town, State)

**Probability Techniques**

 Probability is the discipline that has changed the course of science. It has opened the door of unlimited possibilities in the science and mathematics that we would have never encountered otherwise. Evaluating the likelihood of occurrence of any event before it happens has helped to make the scientific processes smooth and ready for new challenges.

 Computer scientists measure the success and failure of any program before even running it. Probability also becomes a reason for building any computer program and software. Nowadays in time of social media, probability algorithms are used to target the particular audience on the basis of their search results. These results are matched with the other themes on the basis of probability to provide the better user experience. Modern search engines also use probability to extract the useful information for their users (“PageRank Algorithm - The Mathematics of Google Search,” n.d.). In technical terms, transferring data using fast protocols never guarantee the delivery of 100 % data packet. For this reason, developers evaluate the probability of events of failures and set a stochastic limit to tell the user about the poor communication situation. Error Correction codes that are used to handle the duplication of data in case of errors in hard disks and SSD ’s; also use probability and statistics.

 Nowadays MENET-IoT is used in big multimedia data, due to its cost-effective nature and mobility but it faces serious problems of energy consumption and congestion for handling MBD data. In order to solve this problem, Low Energy Adaptive Clustering Hierarchy (LEACH) is suggested that requires the use of probability in the cycling method to find which cluster heads are used in the setup phase(Al-Qarni, Almogren, & Hassan, 2018).

 While testing various software, probability concepts are also used. In this research paper probability of program failures and probability of correctness is used in the testability phase of a program to estimate its correctness. Bayesian interference and probability are used to argue the usefulness of the programs during testing(Bertolino & Strigini, 1996).

**References**

Al-Qarni, B. H., Almogren, A., & Hassan, M. M. (2018). An efficient networking protocol for internet of things to handle multimedia big data. *Multimedia Tools and Applications; Dordrecht*, 1–18. http://dx.doi.org/10.1007/s11042-018-6883-7

Bertolino, A., & Strigini, L. (1996). On the use of testability measures for dependability assessment. *IEEE Transactions on Software Engineering; New York*, *22*(2), 97–108. http://dx.doi.org/10.1109/32.485220

PageRank Algorithm - The Mathematics of Google Search. (n.d.). Retrieved February 2, 2019, from http://pi.math.cornell.edu/~mec/Winter2009/RalucaRemus/Lecture3/lecture3.html