

**(Format for the Training Report)**

Sample Sheet (Title Page/Front Page)

Sample sheet (outer cover)

**STATISTICAL PROCESS CONTROL OF  
MECHANICAL LOCKING SYSTEM  
FOR AUTOMOTIVES** (24pt.)

**REPORT** (14pt.)

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR  
Six Months Industrial Training (TR-104)

at

**TCS, Mumbai**  
(from \_\_\_\_\_ to \_\_\_\_\_)

SUBMITTED BY

Priyanka Walia (14pt)

Branch

Univ. Roll No.

GNDEC Logo

**Information Technology Department**  
**GURU NANAK DEV ENGINEERING COLLEGE**  
LUDHIANA, INDIA (14pt.)

# STATISTICAL PROCESS CONTROL OF MECHANICAL LOCKING SYSTEM FOR AUTOMOTIVES

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## **Abstract(Sample)**

Packet Filtering firewalls can use a database of rules to decide which packets will be allowed to move in and out and from one network onto another. However with the increase in size of rule list, it's very hard to manage and validate the rules, which can also increase the cost of rule lookup and that may add significantly to latency. Packet filtering is the one of the major contemporary firewall design techniques. Implementation of such packet filter using Binary Decision Diagram (BDD) gives more advantages in terms of memory usage and look up time. In the case of the list-based packet filter firewall where rules are checked one by one for each incoming packet, the time taken to decide on a packet is proportional to the number of rules. The performance is improved with rule promotion but that is a slow and static kind of firewall implementation. In this work a BDD-based approach is presented which gives much better result in terms of number of comparisons or accesses the rule list make. This work presents the study, design and implementation of a packet filter firewall using binary decision diagram which provides faster processing of packets while maintaining the integrity of the original security policy. Results on large number of packets show that for most-accept packets, and for most- reject packets there is manifold reduction in such comparisons when BDD-based approach is used over list-based with promotion approach.

The overall performance of a firewall is crucial in enforcing and administrating security, especially when the network is under attack. The continuous growth of the Internet, coupled with the increasing sophistication of the attacks, is placing stringent demands on firewall performance. In this work, a traffic-aware optimization framework is described to improve the operational cost of firewalls. Based on this framework a set of tools are designed that inspect and analyze both multidimensional firewall rules and traffic logs and construct the optimal equivalent firewall rules based on the observed traffic characteristics. The current work is the first to use traffic characteristics in firewall optimization. To evaluate the performance of current approach, a large set of firewall rules and traffic logs from a local LAN or at tens of enterprise networks managed by a Tier-1 service provider are evaluated. The evaluated results find these approaches very effective. In particular, current work has achieved more than 10 fold performance improvement by using the proposed traffic-aware firewall optimization.

**Letter Head of the Company / Organization**

**WHOM IT MAY CONCERN**

I hereby certify that “NAME OF THE STUDENT” Roll No \_\_\_\_\_ of Guru Nanak Dev Engineering College Ludhaina, has undergone six month industrial training from \_\_\_\_ to \_\_\_\_\_ at our organization to fulfill the requirements for the award of degree of B.Tech. (Branch).He/She works on \_\_\_\_\_ project during the training under the supervision of \_\_\_\_\_ . During his tenure with us we found him sincere and hard working. Wishing him a great success in the future.  
Signature of the Student

Signature of the SUPERVISOR (S)

(Seal of Organization)

## **Student's Declaration**

I hereby certify that the work which is being presented in this training report with the project entitled .....(write project name here)” by ..... (student's name to be written here), University Roll No. ....in partial fulfillment of requirements for the award of degree of B.Tech. (Information Technology) submitted in the Department of Information Technology at **GURU NANAK DEV ENGINEERING COLLEGE, LUDHIANA under I.K. GUJRAL PUNJAB TECHNICAL UNIVERSITY** is an authentic record of my own work carried out under the supervision of.....(write mentor's name here), ..... (write designation here) of ..... (Company Name). The matter presented has not been submitted by me in any other University / Institute for the award of B.Tech. Degree.

Student Name: \_\_\_\_\_

Univ. Roll No. \_\_\_\_\_

**(Signature of Student)**

This is to certify that the above statement made by the candidate is correct to the best of my knowledge.

**Signature of Internal Examiner**

The External Viva-Voce Examination of the student has been held on \_\_\_\_\_.

**Signature of External Examiner**

**Signature of HOD**

## SAMPLE SHEET-ACKNOWLEDGEMENT

### ACKNOWLEDGEMENT

I am highly grateful to the Dr. Sehijpal Singh , Principal, Guru Nanak Dev Engineering College (GNDEC), Ludhiana, for providing this opportunity to carry out Six Months industrial training at \_\_\_\_\_.

The constant guidance and encouragement received from Dr. K. S. Mann, Head of the Department, GNDEC Ludhiana has been of great help during the training and project work and is acknowledged with reverential thanks.

I would like to express a deep sense of gratitude and thanks profusely to \_\_\_\_\_ Director/CEO of Company , . Without the wise counsel and able guidance, it would have been impossible to complete the report in this manner.

The help rendered by Mr \_\_\_\_\_, Designation(\_\_\_\_Department \_\_\_\_\_) for experimentation is greatly acknowledged.

I express gratitude to other faculty members of Information Technology department of GNDEC for their intellectual support throughout the course of this work.

Finally, I am indebted to all whosoever have contributed in this report work and friendly stay at \_\_\_\_\_.

**Priyanka Walia**

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## **B.TECH TRAINING REPORT GUIDELINES**

1. The report shall be computer typed (English- British, Font -Times Roman, Size-12 point, Double spacing between lines) and printed on A4 size paper.
2. The report shall be hard bound with cover page in white color. The name of the candidate, degree, month of training, college name shall be printed in black on the cover [refer sample sheet (title page/front page)].
3. The report shall be typed on one side only with double space with a margin 3.5 cm on the left, 2.5 cm on the top, and 1.25 cm on the right and at bottom.
4. References and Bibliography should be included in report.
5. In the report, the title page [Refer sample sheet (title Page/front page)] should be given first then the Certificate by Company/Industry/Institute and then candidate's declaration, followed by an abstract of the report (not exceeding one page). This should be followed by the acknowledgment, list of figures/list of tables, notations/nomenclature, and then contents with page nos.
6. The diagrams should be printed on a light/white background, Tabular matter should be clearly arranged and the font of the Tabular matter should be Font -Times Roman, Size-10 point, Single spacing between lines. Decimal point may be indicated by full stop(.). The caption for figure must be given at the BOTTOM(center aligned) of the figure and Caption for the Table must be given at the TOP(center aligned) of the Table. The font for the captions should be Times Roman, *Italics*, Size-10 point.
7. The font for the chapter titles should be Times Roman, Bold, Capital, Size-16 point and center aligned. The font for the Headings should be Times Roman, Bold, and Size-14 point. The font for the sub-headings should be Times Roman, Bold, and Size-12 point.
8. Equations should be numbered as 1.1, 1.2, 1.3 etc in chapter 1. Similarly as 2.1, 2.2, 2.3 etc in chapter 2 and so on.
9. Figures should be numbered as Figure1.1, Figure 1.2, Figure 1.3 etc in chapter 1. Similarly as Figure 2.1, Figure 2.2, Figure 2.3 etc in chapter 2 and so on.

10. Tables should be numbered as Table 1.1, Table 1.2, Table 1.3 etc in chapter 1. Similarly as Table 2.1, Table 2.2, Table 2.3 etc in chapter 2 and so on.
11. Conclusions and future scope each must not exceed more than two page.
12. The graphs (optional) should be combined for the same parameters for proper comparison. Single graph should be avoided as far as possible.
13. The training report must consist of following chapters:
  - [Chapter-1] INTRODUCTION
  - [Chapter-2] TRAINING WORK UNDERTAKEN
  - [Chapter-3] RESULTS AND DISCUSSIONS
  - [Chapter-4] CONCLUSION AND FUTURE SCOPE
14. References (For style of references follow the instructions attached)
15. Appendix (Any additional information regarding training, (If any) e.g. program, is supposed to be included in appendix
16. There should be 3 copies if Final Report.

**GURU NANAK DEV ENGINEERING COLLEGE, LUDHIANA**

**CANDIDATE'S DECLARATION**

I “NAME OF THE STUDENT” hereby declare that I have undertaken Six month training “Name of **Company/ Industry / Institute**” during a period from \_\_\_\_\_ to \_\_\_\_\_ in partial fulfillment of requirements for the award of degree of B.Tech (Electronics and Communication Engineering) at GURU NANAK DEV ENGINEERING COLLEGE, LUDHIANA. The work which is being presented in the training report submitted to Department of Electronics and Communication Engineering at GURU NANAK DEV ENGINEERING COLLEGE, LUDHIANA is an authentic record of training work.

Signature of the Student

The six month industrial training Viva–Voce Examination of \_\_\_\_\_ has been held on \_\_\_\_\_ and accepted.

Signature of Internal Examiner

Signature of External Examiner

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<b>Chapter 1 Introduction</b>	<b>Page 1 (onwards)</b>
1.1 Introduction to Organization(should not exceed 3 pages including Figs.)	
1.2 Introduction to Project	
1.3 Project Category(Internet based, Application or System Development, Research based ,Industry Automation, Network or System Administration)	
1.4 Objectives	
1.5 Problem Formulation	
1.6 Identification/Reorganization of Need	
1.7 Existing System	
1.8 Proposed System	
1.9 Unique Features of the System	
<b>Chapter 2. Requirement Analysis and System Specification</b>	
2.1 Feasibility study (Technical, Economical, Operational)	
2.2 Software Requirement Specification Document which must include the following:(Data Requirement, Functional Requirement, Performance Requirement,Dependability Requirement, Maintainability requirement, Security requirement, Look and feel requirement)	
2.3 Validation	
2.4 Expected hurdles	
2.5 SDLC model to be used	
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3.2 Detail Design	
3.3 System Design using various Structured analysis and design tools such as : DFD's,Data Dictionary,Structured charts,Flowcharts or UML	
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3.5.2 Normalization	
3.5.3 Database Manipulation	
3.5.4 Database Connection Controls and Strings	
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## **Chapter 4. Implementation, Testing and Maintenance**

- 4.1 Introduction to Languages, IDE's, Tools and Technologies used for Implementation
- 4.2 Coding standards of Language used
- 4.3 Project Scheduling using various tools such as PERT, GANTT charts, Open PROJ etc.
- 4.4 Testing Techniques and Test Plans
- 4.5 Test cases used in the Project

## **Chapter 5. Results and Discussions**

- 5.1 User Interface Representation (Of Respective Project)
  - 5.1.1 Brief Description of Various Modules of the system
- 5.2 Snapshots of system with brief detail of each
- 5.3 Back Ends Representation (Database to be used )
  - 5.3.1 Snapshots of Database Tables with brief description

## **Chapter 6. Conclusion and Future Scope References/Bibliography Annexures**

**(Note: Page No.s for different topics in report may vary according to the contents.**

**Headings within the chapters should be numbered as 1.1, 1.2, 1.3 and so on for chapter 1. Similarly as 2.1, 2.2, 2.3 and so on for chapter 2. The corresponding subheadings as 1.1.1, 1.1.2, 1.1.3 and so on.)**

## GNDEC Citation Reference

Citation standards in this reference are provided for:

- Books
- Conference Technical Articles/Papers
- Periodicals (Journals/ Transaction/Magazines/Letters)
- Reports
- Online sources
- Patents, Standards, Thesis (M.S.) and Dissertations (Ph.D.)

**NOTE:** For two authors use style [J. K. Author and A. N. Writer] and

For three or more authors: [separate author names by comma and also use word „and“ before the name of last author e.g. : J. K. Author, R. Cogdell, R. E. Haskell, and A. N. Writer]

### **Books**

*Basic Format:*

[1] J. K. Author, *Title of His Published Book*, xth ed. City of Publisher, Country: Abbrev. of Publisher, year.

*Examples:*

[1] B. Klaus and P. Horn, *Robot Vision*. Cambridge, USA: MIT Press, 1986.

[2] L. Stein, *Computers and You*, J. S. Brake, Ed. New York, USA: Wiley, 1994.

[3] M. Abramowitz and I. A. Stegun, Eds., *Handbook of Mathematical Functions* (Applied Mathematics Series 55). Washington, DC, USA: NBS, 1964.

### **Conference Technical Articles/Papers**

*Basic Format:*

[1] J. K. Author, "Title of paper," *Unabbreviated Name of Conference*, City of Conference, Country, year, pp. xxx-xxx.

*Example:*

[1] H. Chen, S. C. Laroia, and M. Adithan, "Precision Machining of Advanced Ceramics" *International Conference on Advanced Manufacturing Technology (ICMAT - 94)*, Johor Bahru, Malaysia, 1994, pp. 203-210.

### **Periodicals (Journals/ Transaction/Magazines/Letters)**

*Basic Format:*

[1] J. K. Author, "Name of paper," *Unabbreviated Title of Periodical*, vol. x, no. x, pp. xxx-xxx, Abbrev. Month, year.

*Examples:*

[1] R. E. Kalman, "New results in linear filtering and prediction theory," *Journal of Electrical Engineering*, vol. 83, no. 5, pp. 95-108, Mar. 1961.

[2] Y. V. Lavrova, "Geographic distribution of ionospheric disturbances in the F2 layer," *IET Microwaves, Antennas and Propagation*, vol. 19, no. 29, pp. 31-43, Feb. 1961.

[3] E. P. Wigner, "On a modification of the Rayleigh-Schrodinger perturbation theory," (in German), *International Journal of Computational Intelligence Studies*, vol. 53, p. 475, Sep. 1935.

[4] W. Rafferty, "Ground antennas in NASA's deep space telecommunications," *IEEE Transactions on Antennas and Propagation*, vol. 82, pp. 636-640, May 1994.

## **Reports:**

The general form for citing technical reports is to place the name and location of the company or institution after the author and title and to give the report number and date at the end of the reference.

*Basic Format:*

[1] J. K. Author, "Title of report," Name of Company, City of Company, Country, Report No., xxx, year.

*Examples:*

[1] E. E. Reber "Oxygen absorption in the earth's atmosphere," Aerospace Corporation, Los Angeles, USA, Tech. Rep. TR-0200 (4230-46)-3, Nov., 1988.

## **Online Sources**

### ***FTP***

*Basic Format:*

[1] J. K. Author. (year). *Title* (edition) [Type of medium]. Available FTP: Directory: File:

*Example:*

[1] R. J. Vidmar. (1994). *On the use of atmospheric plasmas as electromagnetic reflectors* [Online]. Available FTP:atmnext.usc.edu Directory: pub/etext/1994 File: atmosplasma.txt

### ***WWW***

*Basic Format:*

[1] J. K. Author. (year, month day). *Title* (edition) [Type of medium]. Available: [http://www.\(URL\)](http://www.(URL))

*Example:*

[1] J. Jones. (1991, May 10). *Networks (2nd ed.)* [Online]. Available: <http://www.atm.com>

## **Patents, Standards, Thesis (M.S.) and Dissertations (Ph.D.)**

### ***Patents***

*Basic Format:*

[1] J. K. Author, "Title of patent," U.S. Patent x xxx xxx, Abbrev. Month, day, year.

*Example:*

[1] J. P. Wilkinson, "Nonlinear resonant circuit devices," U.S. Patent 3 624 125, July 16, 1990.

**NOTE:** Use "issued date" if several dates are given.

### ***Standards***

*Basic Format:*

[1] *Title of Standard*, Standard number, date.

*Examples:*

[1] *IEEE Criteria for Class IE Electric Systems*, IEEE Standard 308, 1969.

[2] *Letter Symbols for Quantities*, ANSI Standard Y10.5-1968.

### ***Thesis (Master) and Dissertations (Ph.D.)***

*Basic Format:*

[1] J. K. Author, "Title of thesis," M.S. thesis, Abbrev. Dept., Abbrev. Univ., City of Univ., Country, year.

[2] J. K. Author, "Title of dissertation," Ph.D. dissertation, Abbrev. Dept., Abbrev. Univ., City of Univ., Country, year.

*Examples:*

[1] J. O. Williams, "Narrow-band analyzer," Ph.D. dissertation, Dept. Elect. Eng., Harvard Univ., Cambridge, MA, 1993.

[2] N. Kawasaki, "Parametric study of thermal and chemical non equilibrium nozzle flow," M.S. thesis, Dept. Electron. Eng., Osaka Univ., Osaka, Japan, 1993.

### **References in Text**

#### *References in Text:*

References are needed be cited in the text and they should appear on the line, in square *inside the punctuation*. Grammatically, they may be treated as if they were footnote numbers, e.g.,

as shown by Brown [4], [5]; as mentioned earlier [2], [4]–[7], [9]; Smith [4] and Brown and Jones [5]; Wood et al. [7]

or as nouns:

as demonstrated in [3]; according to [4] and [6]–[9].

**NOTE:** Use *et al.* when three or more names are given.

### **Reference List Style**

Reference numbers are set flush left and form a column of their own, hanging out beyond the body of the reference.

The reference numbers are on the line, enclosed in square brackets. In all references, the given name of the author or editor is abbreviated to the initial only and precedes the last name. There must be only one reference with each number.

- [1] R. E. Kalman, “New results in linear filtering and prediction theory,” *Journal of Electrical Engineering*, vol. 83, no. 5, pp. 95-108, Mar. 1961.
- [2] Ye. V. Lavrova, “Geographic distribution of ionospheric disturbances in the F2 layer,” *Applied Soft Computing*, vol. 19, no. 29, pp. 31–43, Feb. 1961.
- [3] E. P. Wigner, “On a modification of the Rayleigh–Schrodinger perturbation theory,” (in German), *International Journal of Computational Intelligence Studies*, vol. 53, p. 475, Sep. 1935.
- [4] W. Rafferty, “Ground antennas in NASA’s deep space telecommunications,” *IEEE Transactions on Antennas and Propagation*, vol. 82, no. 3, pp. 636-640, May 1994.

**Important:** Editing of references may entail careful renumbering of references, as well as the citations in text.