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Dr. Manoj Kumar M. V.



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1. EDUCATIONAL QUALIFICATION

- **Doctor of Philosophy (Ph.D.)** in Department of Computer Science and Engineering, *National Institute of Technology Karnataka*, Surathkal, 2017. Under the guidance of Dr. Annappa, associate professor and former head, dept. of CS&E, NITK, Surathkal.

Ph.D. research title:

“A Approach for Handling Concept Drift and model simplification in log-based process analysis”

- **Master of Technology (M.Tech.)** in Computer Science and Engineering, Visvesvaraya technological university (VTU) ,(Aggregate percentage: 86.23%).
- **Bachelor of Engineering (B.E.)** in Computer Science and Engineering, Visvesvaraya technological university (VTU), (Aggregate percentage: 70.01%).

2. RESEARCH EXPERIENCE

January 2015 to July 2017	Senior Research Fellow Distributed computing lab Department of CS&E	<i>National Institute of Technology</i> Karnataka, Mangalore 575025, India
January 2013 to December 2014	Junior Research Fellow Cloud computing lab Department of CS&E	<i>National Institute of Technology</i> Karnataka, Mangalore 575025, India

3. TEACHING EXPERIENCE

November 2017 To Present	<i>Associate Professor,</i> Department of CS&E	<i>Jain Institute of Technology,</i> Davanagere, India
August 2017 to October 2017	<i>Assistant Professor,</i> Department of CS&E	<i>Jain Institute of Technology,</i> Davanagere, India
January 2013 to July 2017	<i>Teaching Assistant,</i> Department of CS&E	<i>National Institute of Technology</i> Karnataka, Mangalore 575025, India
June 2012 to December 2012	<i>Assistant Professor,</i> Department of CS&E	<i>Bapuji Institute of Engineering</i> and Technology, Davanagere, India

4. CURRENTLY UNDERTAKEN RESEARCH WORK

Working on solving phenomenon called “Concept Drift” in process mining research discipline. Concept drift is a second order and non-stationary learning problem.

5. FUTURE POSSIBLE RESEARCH INTEREST DIRECTIONS

My primary research interest is in process mining, data science and statistical data analysis. To be specific my next set of work involve, handling the situation of non-stationary learning problem in major data analysis disciplines such as Data mining, Machine learning and Process Mining. There needs to be methods and techniques to be developed to deal with concept drift which considers all perspectives, change types and change patterns.

6. LIST OF PUBLICATIONS

Papers accepted in Journal

- Manoj Kumar M V, Likewin Thomas and Annappa B. “Concept Drifts Detection and Localization in Process Mining”, *Information Journal*, Vol.19 10 B (pp. 4611-4616), Oct 2016, ISSN 1343-4500(print), ISSN 1344-8994(electronic). (SCOPUS)
- Likewin Thomas, Manoj Kumar M V and Annappa B, “Best Resource Recommendation for a Stochastic Process”. *Information Journal*, Vol.19 10 B

(pp. 4617- 4622), Oct 2016, ISSN 1343-4500(print), ISSN 1344-8994(electronic). (SCOPUS)

- Manoj Kumar M V, and Manoj N Revankar. “A Real Time Digest based Distortion-Encryption and Restoring-Decryption of Multimedia Data in Mobile Phones”. *International Journal of Computer Applications* 57(10):26-29, November 2012.
- Manoj Kumar M V, B. H. Puneetha, “Portable and Economic Smart Generic Data Server for Small Scale Business”. In *International Journal of Engineering Inventions (IJEI)*. ISSN: 2278-7461, Volume 1, Issue 8 (October2012) PP: 20-25.
- Manoj Kumar M V, Manoj N Revankar, “One Time Formula (OTF)” in *International Organization of Scientific Research (IOSR)*.
- Manoj Kumar M V and Pradeep N, “Real Time Android Mobile Based Application for smart vehicular traffic system” *CSECONF – 2012* (Jain University- Bangalore) Conference Proceedings.
- Manoj Kumar M V and Manjunath S, “Secure Message Communication for Battlefield Soldiers Using Android” in *International Journal of Scientific and Engineering Research (IJSER)*.

Papers presented and published in Conference

- Manoj Kumar M V, Likewin Thomas and Annappa B. "Efficient process mining through critical path network analysis". In *Advance Computing Conference, (IACC)*, 21st - 22nd February 2014, DOI: 10.1109/IAdCC.2014.6779377, pp. 511-516, Gurgaon, India, IEEE.
- Manoj Kumar M V, Likewin Thomas, and Annappa B. "Phenomenon of concept drift from process mining insight". In *Advance Computing Conference, (IACC)*, 21st - 22nd February 2014, DOI: 10.1109/IAdCC.2014.6779378, pp. 517 - 522, Gurgaon, India IEEE.
- Manoj Kumar M V, Annappa B, and K. P. Vishwanath. "An Optimal Process Model for a Real Time Process". In *36th International Conference on Application and Theory of Petri Nets and Concurrency 15th International Conference on Application of Concurrency to System Design*, 22nd – 23rd June

2015, pp. 117 - 131, Brussels, Belgium. Central Europe (CEUR) workshop proceedings.

- Manoj Kumar M V, Likewin Thomas, and Annappa B. "Capturing the Sudden Concept Drift in Process Mining". In *36th International Conference on Application and Theory of Petri Nets and Concurrency 15th International Conference on Application of Concurrency to System Design*, 22nd – 23rd June 2015, pp. 132 - 143, Brussels, Belgium. Central Europe (CEUR) workshop proceedings.
- Likewin Thomas, Manoj Kumar M V, and Annappa B. "Optimized path recommendation for the real time process", in *ICMEBI 2016: 18th International Conference on Management, Economics and Business Information*, Tokyo, Japan.
- Likewin Thomas, Manoj Kumar M V, and Annappa B. "Best Resource Recommendation for a stochastic process", communicated to *ICMEBI 2016: 18th International Conference on Management, Economics and Business Information*, Tokyo, Japan.
- Manoj Kumar M V, Likewin Thomas, and Annappa B. "Concept Drifts Detection and Localization in Process Mining", in *2016 International Conference on Information in Business and Technology Management (I2BM)*, 26th - 28th January 2016, pp. 4617 - 4621, Melaka, Malaysia. (Scopus)
- Manoj Kumar M V, Likewin Thomas and Annappa B. "Predicting frequent Execution path in information systems". in *2017 Second International Conference on Electrical, Computer and Communication Technologies (ICECCT 2017)*, 22nd - 24th February 2017, DOI: 10.1109/ICECCT.2017.8118050, pp. 1 - 9 , Coimbatore, Tamil Nadu, India. IEEE Explore. (Scopus)
- Likewin Thomas, Manoj Kumar M V and Annappa B. "An online Decision Support System for Recommending an Alternative Path of Execution". in *2017 Second International Conference on Electrical, Computer and Communication Technologies (ICECCT 2017)* , 22nd - 24th February 2017, DOI: 10.1109/ICECCT.2017.8118050, pp. 1 - 9, Coimbatore, Tamil Nadu, India. IEEE Explore. (Scopus)

- Manoj Kumar M V, Likewin Thomas, and B. Annappa . “Simplifying Spaghetti Processes to Find Frequent Execution Path”, in *International Conference on Smart Systems, Innovations and Computing (SSIC-2017)*, 15th - 16th April 2017 Jaipur, India. Springer LNCS. (Scopus) - Yet to appear online.
- Likewin Thomas, Manoj Kumar M V, and Annappa B. “Analyzing Pre-conditions of Gallstone Disease using Machine Learning Techniques”, in *International Conference on Smart Systems, Innovations and Computing (SSIC-2017)*, 15th - 16th April 2017 Jaipur, India. Springer LNCS. (Scopus) - Yet to appear online.
- Manoj Kumar M V, Likewin Thomas, and Annappa B. “Distilling Lasagna from Spaghetti Processes”. In *Proceedings of the 2017 International Conference on Intelligent Systems, Metaheuristics & Swarm Intelligence*, 25th Mar 2017, DOI: 10.1145/3059336.3059362, pp. 157 - 161, Kowloon City, Hong Kong. ACM digital library. (Scopus).
- Likewin Thomas, Manoj Kumar M V and Annappa B. “Recommending an alternative path of execution using an online decision support system”. In *Proceedings of the 2017 International Conference on Intelligent Systems, Meta-heuristics & Swarm Intelligence*, 25th March 2017, DOI: 10.1145/3059336.3059361, pp. 108 - 112, Kowloon City, Hong Kong. ACM digital library. (Scopus)
- Sneha H R, Annappa B., Manoj Kumar M. V., Likewin Thomas. “Smart Phone Based Emotion Recognition and Classification”, in *2017 Second International Conference on Electrical, Computer and Communication Technologies*, 22nd - 24th February 2017, DOI: 10.1109/ICECCT.2017.8117872, pp. 1 - 7, Coimbatore, Tamil Nadu, India. IEEE Explore. (Scopus)

Communicated Papers

- Manoj Kumar M V, Likewin Thomas, and Annappa B. “Handling Control-Flow Concept Drift in Process Mining”, communicated to *IETE Journal of Research*, Taylor and Francis.
- Likewin Thomas, Manoj Kumar M V, and Annappa B. ” Classification and Prediction of Gallstone Disease using Modified Cascade Neural Network”, communicated to *IETE Journal of Research*, Taylor and Francis.

- Manoj Kumar M V, Likewin Thomas, and Annappa B, “Process Logo: Visualizing Control Flow of Operational Process More Meaningfully”, Communicated to *Business Information Systems 2017*.
- Manoj Kumar, M. V., Likewin Thomas Annappa, B., and Bartosz Krawczyk. “Aligning Traces to Detect and Localize Concept Drifts in Process Mining”, *IEEE Transactions on Knowledge and Data Engineering*.

7. INVITED TALKS

- A three days workshop on “*Android application development*”, during 27th to 29th September 2014, in Department of Computer Science and Engineering, Srinivasa institute of technology, Mangalore.
- A three days workshop on “*Android application development*”, during 5th - 7th February 2015, in Department of Computer Information Science and Engineering, Bapuji institute of engineering and technology, Davanagere.
- A two days workshop on “*Mobile application development Using Android*”, during 24th - 25th March 2015, in Department of Information Science and Engineering, Mangalore Institute of Technology, Moodbidri.
- A two days workshop on “*Mobile application development*”, during 3rd -4th April 2015, in Department of Computer Science and Engineering, National Institute of Technology Karnataka, Surathkal.
- A one day workshop on “*Android application development*”, on 22nd August 2015, in Department of Computer Science Applicants and Animation, St. Aloysius college, Mangalore.
- A one day workshop on “*Android application development*”, on 25th August 2015, in Department of Information Science, Karpagam College of Engineering, Coimbatore, Tamil Nadu.
- A two days workshop on “*Android application development*”, during 5th - 6th February 2016, organized by IEEE student branch ECE in association with IEEE Mangalore sub section, at Canara College of Engineering, Mangalore.

- A fifteen days “*Android summer training school*”, during 1st May to 15th May 2016, in department of E&C, National Institute of Technology Karnataka, Surathkal.
- A two days “*Mobile application development and R programming workshop*” during 7th - 8th November 2016, in department of Information Science and Engineering, Bapuji Institute of Engineering and Technology, Davanagere.
- Handled a talk and hands-on session on “*Mobile and pervasive computing*”, during 5th - 14th December 2016, as a part of a two weeks GAIN Faculty Development Program in Computer science and engineering department, National Institute of Technology Karnataka, Surathkal.

8. **CONFERENCES, SYMPOSIUMS, SUMMER SCHOOLS, FDP, AND WORKSHOPS ATTENDED**

- A Two days workshop on “*Network Simulator - 3 (NS-3)*” during 7th - 8th December , 2013 at National Institute of Technology Karnataka, Surathkal, India.
- 6th India “*Software Engineering Conference*”, during 21st - 23rd February, 2013 at India Habitat Center, New Delhi, India.
- A 5 days workshop on “*Data Analytics & Applications*”, during 26th February - 1st March 2013 at Birla Institute of Technology and Science, Goa, India.
- A two day Workshop on “*Fundamentals of Speech Processing*”, during 14th - 15th March , 2014 at National Institute of Technology Karnataka, Surathkal, India.
- *2014 IEEE International Advance Computing Conference (IACC)*, Delhi, India.
- A one week International Summer School on “*Leading Edge Software Engineering*” (ISS-LESE 2014) during 3rd - 8th March, 2014 at National Institute of Technology Karnataka, Surathkal, India.
- A Three days Workshop on “*Neural Networks' Approach for Speech Tasks*” on February 28th February - March 1st, 2014 at National Institute of Technology Karnataka, Surathkal, India.

- 36th International Conference on “*Application and Theory of Petri Nets and Concurrency*” (PNC), on 21st June , 2015 at Université libre de Bruxelles, Brussels, Belgium.
- 15th International Conference on “*Application of Concurrency to System Design*” (ACSD), during 22nd - 24th June , 2015 at Université libre de Bruxelles, Brussels, Belgium.
- A two days Workshop on “*Algorithms & Theories for the Analysis of Event Data*” (ATAED'2015), during 25th - 26th June, 2015, at Université libre de Bruxelles, Brussels, Belgium.
- A two weeks Faculty Development Program (FDP) on “*Pervasive and Mobile computing*”, during 05th - 14th December 2016, at National Institute of Technology Karnataka, Surathkal, India.
- A one week Faculty Development Program (FDP) on “*Biological Signal Analysis*”, during 21st - 25th December 2016. Organized by GAIN at National Institute of Technology Karnataka, Surathkal, India.
- A one Week Faculty Development Program on “*Software Mining and Analysis*”, during 17th - 21st December 2016. Organized by GAIN at National Institute of Technology Karnataka, Surathkal, India.
- *IEEE conference on Distributed Computing, VLSI, Electrical Circuits and Robotics*, organized by IEEE Mangalore Sub-Section, during 13th - 14th August, 2016 at NITK, Surathkal, India.
- *International Conference on Intelligent Systems, Metaheuristics & Swarm Intelligence*, during 24th - 26th March 2017, Kowloon city, Hong Kong.
- *IEEE International Conference on Electrical, Computer and Communication Technologies*, during 22nd - 24th February, 2017, Coimbatore, India.
- *International Conference on Smart Systems, Innovations and Computing (SSIC)*, during 15th - 16th April 2017, Manipal Institute of Technology, Jaipur, India.
- Represented Jain Institute of Technology in the Institute supporting startup category organized as a part of *India International Science Festival 2017 (IISF 2017)*. At Anna University premises, Chennai during 14th to 16th October 2017.

9. **CONFERENCES, SYMPOSIUMS, SUMMER SCHOOLS, FDP, AND WORKSHOPS VOLUNTEERED**

- Workshop on “*Application of data Science*” during 18th – 19th May 2015 at National Institute of Technology Karnataka, Surathkal, India.
- Short Term Training Program on “*Big Data and Machine Learning (BIG LEARN 2014)*” during 21st - 23rd February, 2014 at National Institute of Technology Karnataka, Surathkal, India.
- A Two days workshop on “*Recent Developments in Software Testing (SoftTest-2013)*” during 18th - 19th October, 2013 at National Institute of Technology Karnataka, Surathkal, India.
- A three days 3rd Workshop on “*Simulation of Wired and Wireless Networks (SWN - 2013)*”, during 17th - 19th June, 2013 at National Institute of Technology Karnataka, Surathkal, India.
- Short Term Training Program on “*Recent Advances and Research Directions in Software Engineering (RAISE '13)*” during 10th -14th June, 2013 at NITK Surathkal, India.
- A Two days Workshop on “*Android Application Development*” (in association with IIT Bombay), during Saturday, 13th - 14th April, 2013 at National Institute of Technology Karnataka, Surathkal, India.
- 3rd International Conference on “*Eco-friendly Computing and Communication Systems (ICECCS 2014)*” , during 18th - 21st December, 2014 at National Institute of Technology Karnataka, Surathkal, India.
- 2nd International Conference on “*Advanced Computing, Networking and Security*” (ADCONS '13), during 15th - 17th, December, 2013, at National Institute of Technology Karnataka, Surathkal, India.
- A 5 days “*Computing Conclave of National Institute of Technologies (CoCoNITs)*” , Inter NIT Conclave conducted at National Institute of Technology Karnataka, Surathkal, India.

10. FOREIGN VISIT FOR RESEARCH INTERACTION AND PAPER**PRESENTATION**

- Visited Université libre de Bruxelles, Brussels, **Belgium**, during 21 - 26 June 2015. The purpose of this visit was to present a paper in PN//ACSD 2015 conference and to interact with Prof. Wil Van Der Aalst, who is the founder of Process mining research discipline.
- Visited Hong Kong University of Science and Technology, **Hong Kong**, during 23 - 28 March 2017, and presented a paper in “2017 International Conference on Intelligent Systems, Metaheuristics & Swarm Intelligence”.

11. INDUSTRIAL EXPERIENCE

- Served as System Analyst at Hewlett Packard (HP), Residency Road, Bangalore. During June - December 2010.
- Served as mobile application developer (part time) at RIS during the period of six months from (March 2012 to September 2012).
- Since 2011 I have been working as a freelancer for building Android and IOS applications for the following clients,
 - ✓ Cybernet Consulting INC., New Jersey, USA
 - ✓ Reckon Info. Solutions, Bangalore, India.

12. SUBJECTS HANDLED

Data Science, Discrete Mathematics, Graph theory, C programming, Digital Systems, Java, Android Java, Electronic Circuits and Web Technology.

13. CERTIFICATIONS

- Certified in Visual studio from Kaiten software solutions, Bangalore.
- Certified in Database and Web Programming from Reckon Info solutions.
- Certified in core and Advanced Java Programming from Reckon Info solutions.

14. AREAS OF INTEREST

- Data Science.
- Process mining.

- Data mining.
- Operational/informational Process modeling.
- Operational/informational Process simulation.
- Mobile application development

15. TOOL EXPERTISE

- Colored Pertinent Tools.
- Process Mining Workbench ProM.
- Process Discovery tool DISCO.
- Android Studio with Standard Development Kit.
- Eclipse with SDK.
- Net beans.
- Word Press.
- R studio and R base package application.
- Latex.
- Inkscape.
- Weka.
- R studio.
- HTML, CSS, JSON, XML and WordPress CMS.
- Programming languages: C, C++, Java, R.
- Database systems: MySQL, MS access, and oracle.

16. SIGNIFICANT PROJECTS

Android mobile phone based smart card application, Office automation, Mobitras, Place administrator, GPS navigator, Route guide system, Token based authentication for e payment, Real time android image encryption, Online shopping application

17. PROFESSIONAL BODY MEMBERSHIPS

- IEEE Post Graduate Student Member.

18. STARTUP

Founding member of a company named Rectopage since 2016. It is related to mobile/desktop/web application development and Data analysis. To find out more about Rectopage, please visit <http://www.rectopage.com/>.

19. PERSONAL DETAILS

- Date of Birth: 24th July.
- Languages Known: Kannada, English and Hindi.
- Marital status: Single.
- Sex: Male.
- Nationality: Indian.
- Hobbies: Programming, teaching, reading, trekking, cycling, long distance running, Taking MOOC courses and writing.
- Official page: <http://cse.nitk.ac.in/researchscholars/manoj-kumar-m-v>
- Website: <http://www.rectopage.com>
- Personal Page: <http://www.rectopage.com/manoj>
- Blog: <http://www.rectopage.com/manoj/blog>

- Permanent address: S/o Mr. M L Vasantha Kumara,
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For recommendation and verification

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I hereby declare that the above mentioned information is correct to the best of my knowledge.

Place:

Date: