

SIBI CHAKKARAVARTHY S B.E, M.Tech, Ph.D.,

Security Researcher - Network Security | Targeted Cyber Attacks | Advanced Persistent Threats | Malware analysis

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- **Current Position: Professor, School of Computer Science & Engineering, VIT-AP University, India. (17.09.2018 - Till date).**
- **Coordinator, Centre of Excellence, Artificial Intelligence and Robotics (AIR), VIT-AP University, India. (17.07.2018 - Till date).**
- **Founder, DigitalFortress Private Limited, a bootstrapped startup incubated in VTBI, VIT-AP University.**

Work Experience

- **Professor Grade 1, Vellore Institute of Technology – Andhra Pradesh (VIT-AP), 31.10.2024 – Till date**
- **Associate Professor Senior, Vellore Institute of Technology – Andhra Pradesh (VIT-AP), 16.09.2023 – 31.10.2024**
- **Associate Professor Grade 2, Vellore Institute of Technology – Andhra Pradesh (VIT-AP), 20.10.2021 – 16.09.2023**
- **Associate Professor Grade 1, Vellore Institute of Technology – Andhra Pradesh (VIT-AP), 16.09.2018 – 20.10.2021**
- **Assistant Professor, Vellore Institute of Technology – Andhra Pradesh (VIT-AP), 09.05.2018 - 16.09.2018.**
- **Junior Research Fellow (DST-PURSE II)**
Department of Electronics Engineering, Anna University (MIT Campus), (14.03.2015 - 31.12.2017)
- **Junior Research Fellow (DST-NRDMS)**
Project title: “Complex Event Processing for sensor network”
AU-KBC Research Centre, Anna University (MIT Campus), (04.1.2015 - 13.03.2015)

Education

- **Ph.D (2018) – Full Time : Network and System Security**
Anna University (Madras Institute of Technology (MIT) Campus), Chennai.
CGPA - 8.4.
JRF - Department of Science and Technology (DST).
Thesis Title: Targeted Cyber Attacks and their mitigation techniques
- **Master of Technology (2014) – Full Time: Computer Science and Engineering**
VelTech Rangarajan Dr.Sagunthala R&D Institute of Science And Technology, Chennai
CGPA - 8.9.
- **Bachelor of Engineering (2012) – Full Time: Computer Science Engineering**
P.S.R Engineering College, Anna University, Chennai
CGPA - 8.14.

Research Grant

Title : GPU accelerated security system
Funding agency : NVIDIA
Grant in INR : 1.7L
Duration : 01.07.2018 - 01.07.2019

Title : A novel deep learning model to identify cyber bullying and its impact on mental health of the youth in India
Funding agency : DST - CSRI
Grant in INR : 26L
Duration : May 2023 – ongoing

Title : Saila, FIDO enabled smartphone-based passwordless authentication System to protect HID
Funding agency : DSCI – C-HERD
Grant in INR : 7L
Duration : Apr 2024 – ongoing

Fellowship, Awards and Achievements

- **Best Research Mentor Award, HPE CTY**
- **Technology Innovation award, IBM Systems, 29.12.2021.**
- **Best Researcher Award (for publication), VIT-AP University, 2021,2022,2023.**
- **Global Speaker Grant (2019) – Sponsored by University System of New Hampshire, United States of America. Grant Worth: \$2000 USD.**
- **Junior Research Fellow (2015 – 2017) – Sponsored by Department of Science and Technology (DST) for pursuing Ph.D.**

Research Projects

1. **AI enabled Chatbot**
 - **Chatbot name: VIT Assist, VITapian.**
 - **Available live in Google Assistant**
2. **TARS: The Autonomous Rhapsody spider**
3. **VISU – An advanced Humanoid, India’s first academic 3d printed intelligent robot**
4. **Vinci X – Smart garment for vital signs monitoring**
5. **Cleo - Smart Glasses to monitor alcohol consumption and number of smokes**
6. **CEREBRO – Brain controlled wheelchair**
7. **OhYes – A dedicated Operating System for VISU**
8. **Blackspace - a sophisticated malware**
9. **BlackPanther - a sophisticated malware**
10. **Nirvana - Computer Vision based Retail product classification**
11. **SimplyMime – Gesture recognition system**
12. **iDrone – Forest Fire detection**
13. **Colaboot – Diskless PC booting**

Research Experience

Remote Health Monitoring System [Award Winner - Hackathon]

- Deployed a cloud infrastructure using OpenNebula.
- Examined the literature on Activity recognition, remote healthcare and vital sign classification algorithms.
- Designed a Machine Learning based remote health monitoring system that performs intelligent diagnosis alerting the most common abnormalities such as fall, ECG, blood pressure and oxygen level - **National Winner in healthcare vertical**, Open Innovation Hackathon for Smart villages, 2017, organized by **Andhra Pradesh** Government.
- Genetic Algorithm is used (Selection, Mutation, Crossover).
- Fitness estimation is performed in each layer in order to estimate the best chromosome to fit.
- Scaled individual data node's disk space usage by setting up an alert threshold.

Automatic Leaf Vein Feature Extraction

(Research Intern at SS & DM group, C-DAC, Pune)

- Automatic Leaf Vein Feature Extraction
- Hough lines are used to extract the first degree veins and Centroid vein angle (medial axis line) is considered to be the primary feature.
- Skeletonization (Thinning) algorithm is applied to extract the possible medial axis from the veins and finally a pruning algorithm is applied to determine the dominant veins.
- A Sequential correlation is applied in order to perform template matching.

- Designed a plugin for leafilia (leaf recognition system developed by C-DAC) to extract first degree vein from leaf images.

Face spoof attack detection

- A hybrid feature descriptor such as Color Local Binary Pattern (CLBP), Haralick feature, Color moment are used.
- Optimized the feature extraction phase using GPU-based real-time data analyses and speed up more than 5 times.
- NVIDIA Quadro K2000 is used for optimizing computation.
- OpenCV library is used for implementation

Automatic Phishing detection using machine learning techniques (algorithms)

- Hybrid classification model is used to classify the phishing pages
- Ensemble of classifiers are used (Intermediate layer and Decision layer)
- Intermediate layer - Classifiers used: K-NN, RandomForest, Logistic regression, DNN (MLP with 5 neurons for each layer, Maximum epoch = 750)
- Random forest is further used to classify the results of intermediate layer.

Trajectory based Abnormal Event Detection in Video Traffic Surveillance

- General Potential Data field (GPDf) is used along with spectral clustering to detect outliers such as illegal U-Turn, frequent lane changing and overlapping.
- Nvidia Quadro K2000 is used for GPDf estimation (approximately 1000 trajectories)
- Complex Event Processing (rule) Engine is used to make decisions.

Intrusion Detection Honeypot

- Examined the literature on Honeypot, Intrusion Detection System, CEP etc.
- Designed a Hidden Markov Model based Honeypot to detect and prevent ransomware attacks.
- Hidden Markov Model is used as the classifier to classify the ransomware and benign activities.
- Viterbi algorithm is used for training the samples.
- Complex Event Processing (CEP) engine is deployed to aggregate the data from different security systems to confirm the ransomware behavior, attack pattern and respond them in a timely manner.
- Handled nearly 100+GB of logs.

CEP based Hybrid Intrusion Detection System

- Examined the literature on Honeypot, Intrusion Detection System.
- Designed a CEP based Hybrid IDS that integrates the output of the Host IDS and Network IDS into the CEP Module and produces a consolidated output with higher accuracy.
- Multivariate Correlation Analysis (MCA) is used to estimate and characterize the normal behavior of the network.

Git

- <https://github.com/sibichakkaravarthy>

Professional Experience

- Strong expertise in detecting intrusions via network scans and deep packet analysis.
- Hands-on experience in deploying cloud servers (OpenNebula, Openstack) and monitoring the Server Health status, backup management, update checklist and reports based on daily, weekly and monthly basis.
- Hands-on experience in deploying Honeypot (Dionaea) and Malware analysis sandboxes (Cuckoo) in production environment.
- Hands-on experience in deploying SIEM (OSSIM) to monitor real time security events (visualization using ELKB) using Elasticsearch, Logstash, Kibana and Beats (ELKB).
- Hands-on experience in deploying WAZUH and managing compliances related to Fintech, Healthcare etc.
- Hands-on Knowledge in hardware and OS hardening techniques like DEP, ASLR, SGX, TPM.
- Hands-on experience with FIDO and FIDO compatible modules.

Flagship Conference

1. Anisha Ghosh, Aditya Mitra, **Sibi Chakkaravarthy S**, Devi Priya V S, Rakesh Thoppaen Suresh Babu and Anitha Subramanian, “Saila: Human Interface Device (HID) Injection Protection with Smart Phone based Passwordless Security”, ICDCS, 2024. [CORE - A].
2. **Sibi Chakkaravarthy S**, Anisha Ghosh, Aditya Mitra, Rakesh Thoppaen Suresh Babu, “TUSH-Key: Transferable User Secrets on Hardware Key”, ICPADS 2024. [CORE - A].

Selective Publications

3. **Sibi Chakkaravarthy Sethuraman**, Gaurav Reddy Tadkapally, Athresh Kiran, Saraju P Mohanty and Anitha Subramanian; “SimplyMime: A Dynamic Gesture Recognition and Authentication System for Smart Remote Control”, IEEE Sensors, Vol. 24, Issue: 24 (**SCIE**).
4. Aravinth T.M, **Sibi Chakkaravarthy Sethuraman**, Devi Priya VS, “mCaptcha: Replacing Captchas with Rate limiters to Improve Security and Accessibility”, Communications of the ACM, Volume 67, Issue 10, pp. 70 – 80, 2024. (**SCIE**).
5. R Arun Kumar and **Sibi Chakkaravarthy Sethuraman**, “YogiCombineDeep: Enhanced Yogic Posture Classification using Combined Deep Fusion of VGG16 and VGG19 Features.”, IEEE Access, vol. 12, pp. 139165-139180, 2024. (**SCIE**).

6. S. Thangam and **Sibi Chakkaravarthy Sethuraman**, “An Edge Enabled Region-oriented DAG-based Distributed Ledger System for Secure V2X Communication”, *KSII Transactions on Internet and Information Systems (TIIS)*, Volume 18 Issue 8, Pages.2253-2280, 2024. (SCIE).
7. S Gopikrishnan, **Sibi Chakkaravarthy Sethuraman**, Gautam Srivastava, T Sudhakar, “CyTFS: Cyber-Twin Fog System for Delay Efficient Task Offloading in 6G Mobile Networks”, *IEEE Internet of Things Journal*, vol. 11, no. 14, pp. 24698-24714, 2024. (SCIE).
8. **Sibi Chakkaravarthy Sethuraman**, Devi Priya VS, Tarun Reddi, Mulka Sai Tharun Reddy, Muhammad Khurram Khan, “A Comprehensive Examination of Email Spoofing: Issues and Prospects for Email Security”, *Computers & Security*, Elsevier, vol. 135, 103490, 2023. (SCIE).
9. **Sibi Chakkaravarthy Sethuraman**, Devi Priya, Saraju P Mohanty, “Flow based containerized honeypot approach for network traffic analysis: An empirical study”, *Computer Science Review*, Elsevier, vol. 50, 100600, 2023. (SCIE).
10. Devi Priya, **Sibi Chakkaravarthy Sethuraman**, Muhammad Khurram Khan, “Container Security: Precaution levels, Mitigation Strategies, and Research Perspectives”, *Computers & Security*, Elsevier, vol. 135, 103490, 2023. (SCIE).
11. Arun kumar R, **Sibi Chakkaravarthy Sethuraman**, “A Survey on Yogic Posture Recognition”, *IEEE Access*, IEEE, vol. 11, pp. 11183-11223, 2023. (SCIE).
12. Devi Priya VS, **Sibi Chakkaravarthy Sethuraman**, “Containerized cloud-based honeypot deception for tracking attackers”, *Scientific Reports*, Nature, Vol. 13, Issue.1, 1437. (SCIE).
13. M. Gopinath, **Sibi Chakkaravarthy Sethuraman**, “A comprehensive survey on deep learning based malware detection techniques”, *Computer Science Review*, Vol. 47, 100529, Elsevier, February 2023. (SCIE).
14. Aditya Mitra, S Karthikeyan, **Sibi Chakkaravarthy S**, Meenalosini Vimal Cruz, G Pandiya Rajan, S Sankar Ganesh, “A potable water location tagging system for victims of natural calamities”, *Environmental Challenges*, Vol. 9, 100617, 2022, Elsevier.
15. **Sibi Chakkaravarthy Sethuraman**, Pranav Kompally, Saraju P Mohanty, BKSP Raju, Meenalosini Vimal Cruz,” Cleo: Smart Glasses to Monitor Consumption of Alcohol and Cigarettes” , *Springer Nature Computer Science*, 1-13, Vol.3, Issue. 3, Springer, Jan 2023. Vol. 4, Issue. 1, 1-13.
16. **Sibi Chakkaravarthy Sethuraman**, Aditya Mitra, Kuan-Ching Li, Anisha Ghosh, M Gopinath, Nitin Sukhija, “Loki: A Physical Security Key Compatible IoT Based Lock for Protecting Physical Assets”, *IEEE Access*, Vol.10, 112721-112730, IEEE. (SCIE).

17. R Chidhambararajan, Aman Rangapur, S Sibi Chakkaravarthy, Aswani Kumar Cherukuri, Meenalosini Vimal Cruz, S Sudhakar Ilango, “EfficientWord-Net: An Open Source Hotword Detection Engine Based on Few-Shot Learning”, *Journal of Information & Knowledge Management*, Vol. 21, Issue. 04, 2250059, World Scientific Publishing Company. (SCIE).
18. **Sibi Chakkaravarthy Sethuraman**, Gaurav Reddy Tadkapally, Saraju P Mohanty, Anitha Subramanian, “iDrone: IoT-Enabled Unmanned Aerial Vehicles for Detecting Wildfires Using Convolutional Neural Networks”, *Springer Nature Computer Science*, 1-13, Vol.3, Issue. 3, Springer, April, 2022.
19. Dedipyaman Das, **S.Sibi Chakkaravarthy**, Suresh Chandra Satapathy, “A Decentralized Open Web Cryptographic Standard”, *Computers and Electrical Engineering*, Elsevier, Volume 99, 107751, April, 2022, (SCIE).
20. Pranav Kompally, **S.Sibi Chakkaravarthy**, Steven Walczak, Samuel Johnson, Meenaloshini Vimal Cruz, “MaLang: Decentralized Deep Learning Approach to Detect Abusive Textual Content”, *Applied Sciences: Computing and Artificial Intelligence*, MDPI, 11, 8701, 2021, (SCIE).
21. Jatin Karthik Tripathy, **S.Sibi Chakkaravarthy**, Meenalosini Vimal Cruz, Anupama Namburu, Mangalraj P, Nandha Kumar R, Sudhakar Ilango and Vaidehi Vijayakumar, “Comprehensive Analysis of Embeddings and Pre-Training in NLP”, *Computer Science Review*, Elsevier, Volume 42, November, 100433, 2021, (SCIE).
22. Pranav Kompally, **S. Sibi Chakkaravarthy**, Srikar Reddy, Charan Koduri, Yaswanth Naidu, M.Raghavaiah, Sashidhar Reddy, Namburi Nikhil, "VISU: A 3D Printed Functional Robot for Human Pose Replication", *Journal of Scientific and Industrial Research (JSIR)*, Vol. 80(07), pp. 563-569, Jul-2021. (SCIE).
23. **S. Sibi Chakkaravarthy**, Pranav Kompally, Saraju P Mohanty and Uma Chopalli, “MyWear: A Novel Smart Garment for Automatic Continuous Vital Monitoring”, *IEEE Transactions on Consumer Electronics*, IEEE, Vol. 67, No. 3, pp. 214-222, 2021. (SCIE).
24. Sudharth Purohit, Suresh Chandra Satapathy, **S. Sibi Chakkaravarthy**, Yu-Dong Zhang, “Correlation based analysis of COVID-19 virus genome versus other fatal virus genomes”, *Arabian Journal for Science and Engineering*, Springer, June, 2021. (SCIE).
25. Tathagat Banerjee, Aditya Jain, **S. Sibi Chakkaravarthy**, Suresh Satapathy; S Karthikeyan, Ajith Jubilson, “Deep Convolutional Neural Network (Falcon) and Transfer Learning-based approach to detect Malarial Parasite”, *Multimedia Tools and Applications*, Springer, (SCIE).
26. D. Sangeetha, **S. Sibi Chakkaravarthy**, Suresh Chandra Satapathy, Vaidehi V, Meenaloshini Vimal Cruz, “Multi Keyword Searchable Attribute Based Encryption

for efficient retrieval of Health Records in Cloud”, *Multimedia Tools and Applications*, **Springer**, 2021, (SCIE).

27. **S. Sibi Chakkaravarthy**, Pranav Kompally and Srikar Reddy, “VISU: A 3D Printed Functional Robot for Crowd Surveillance”, *IEEE Consumer Electronics*, **IEEE**, Vol.10, Issue 1, pp 17 - 23. (SCIE).
28. **S. Sibi Chakkaravarthy**, D. Sangeetha, Meenalosini Vimal Cruz, V. Vaidehi and Vaidehi V, “Design of Intrusion Detection Honeypot using Social Leopard Algorithm to detect IoT ransomware attacks”, *IEEE Access*, **IEEE**, vol. 8, pp. 169944-169956, 2020. (SCIE).
29. Jatin Karthick Tripathy, **S. Sibi Chakkaravarthy**, Suresh Chandra Satapathy, Madhulika Sahoo, Vaidehi V, “ALBERT based Fine-Tuning model for Cyberbullying Analysis”, *Multimedia Systems*, **Springer**, 2020. (SCIE).
30. Meenalosini Vimal Cruz, Anupama Namburu, BKSP Kumar Raju Alluri, Sumathi D, Suresh Chandra Satapathy and **S. Sibi Chakkaravarthy**, “Analysis of COVID-19 Pandemic - Origin, Global Impact and Indian Therapeutic Solutions for infectious diseases”, *Indian Journal of Traditional Knowledge*, Vol. 19 [Sup], December 2020, pp. 103-117, (SCIE).
31. Meenalosini Vimal Cruz, Anupama Namburu, Suresh Chandra Satapathy, Matthew Pettensberg and **S. Sibi Chakkaravarthy**, "Skin Cancer classification using Convolutional Capsule Network (CapsNet)", *Journal of Scientific and Industrial Research*. Vol. 79, November 2020, pp. 994-1001. (SCIE).
32. Joshan Athaneious, S. Vasuhi, V. Vaidehi, Shiny Christobel and **S. Sibi Chakkaravarthy**, “Detecting Abnormal Events in Traffic Video Surveillance using Super-Orientation Optical Flow feature”, *IET Image Processing*, Vol.14, 1881-1891, 2020, **IET**. (SCIE).
33. **S. Sibi Chakkaravarthy**, V. Vaidehi and Steven Walczak, “Cyber Attacks on Healthcare Devices Using Unmanned Aerial Vehicles”, *Journal of Medical Systems*, Vol.44, Article 29, **Springer**, (SCIE).
34. G Koduru, KN Rao, Anupama Namburu, **S. Sibi Chakkaravarthy**, Segmentation of brain MR Images using Rough Set based Intuitionistic Fuzzy C-Means, *Journal of Theoretical and Applied Information Technology* 97 (24).
35. D. Arivudainambi, K.A. Varun Kumar, **S. Sibi Chakkaravarthy**, P. Visu, “Malware traffic classification using principal component analysis and artificial neural network for extreme surveillance”, *Computer Communications*, Vol.147, November, 2019, pp.50-57, **Elsevier**, (SCIE).
36. Akshay T, **S. Sibi Chakkaravarthy** , D. Sangeetha, M. Venkata Rathnam, V. Vaidehi, “Role Based Policy to Maintain Privacy of Patient Health Records in

Cloud”, Journal of Super Computing, Vol.75, Issue 9, June 2019, pp.5866–5881, Springer, (SCIE).

37. **S. Sibi Chakkaravarthy**, D. Sangeetha and V. Vaidehi, “Intrusion Detection System to detect Wireless attacks in IEEE 802.11 networks”, IET networks, **July 2019**, Volume 8, Issue 4, pp. 219- 232, **IET. (SCIE)**.
38. **S. Sibi Chakkaravarthy**, D. Sangeetha and V. Vaidehi, “A Survey on malware analysis and mitigation techniques”, Computer Science Review, Vol. 32, 1-23, **May 2019, Elsevier, (SCIE)**.
39. Jerart Julius L, Manimegalai D, **S. Sibi Chakkaravarthy**, “FBMC-Based Dispersion Compensation Using Artificial Neural Network Equalization for Long-Reach Passive Optical Network”, International Journal of Wavelets, Multiresolution and Information Processing, **April 2019, World Scientific Publisher, (SCIE)**.
40. Joshan Athaneious, **S. Sibi Chakkaravarthy**, S. Vasuhi and V. Vaidehi, “Trajectory based Abnormal Event Detection in Video Traffic Surveillance using General Potential Data field with Spectral clustering”, Multimedia Tools and Applications, **February 2019, Springer, (SCIE)**.
41. **S. Sibi Chakkaravarthy**, D. Sangeetha, M.Venkata Rathnam, K.Sri nithi, V. Vaidehi; "Futuristic cyber-attacks", International Journal of Knowledge based and Intelligent System Engineering, Vol.22, no.3, pp. 105- 204, 2018. **IOS press**.
42. **S. Sibi Chakkaravarthy**, P.Rajesh and V. Vaidehi, "Hybrid analysis technique to detect Advanced Persistent Threats", International Journal of Intelligent Information Technologies, 59 -76, Volume 14, Issue Q2, 2018, **IGI Global**.
43. V Mohanraj, **S. Sibi Chakkaravarthy**, I Gogul, V Sathiesh Kumar, Ranajit Kumar, V Vaidehi ; "Hybrid Feature Descriptors to Detect face Spoof Attacks", Journal of Intelligent & Fuzzy Systems, vol. 34, no. 3, pp. 1411-1419, 2018, **IOS press, (SCIE)**.
44. D. Arivudainambi, Varun Kumar K.A and **S. Sibi Chakkaravarthy**; "LION IDS: A meta-heuristic approach to detect DDoS attacks against Software Defined Networks", Neural Computing and Applications, 1-11, 2018, **Springer, (SCIE)**.

Patent

1. S. Sibi Chakkaravarthy and Pranav Kompally, “TARS: The Autonomous Rhapsody spider”, **Indian Patent, Filed. (Published)**
2. S. Sibi Chakkaravarthy, Sangeetha D, Meenalosini Vimal Cruz, Vaidehi V, Balasubramanian, “Social Leopard algorithm for ransomware detection”, **Indian Patent, Filed.**

Monographs/Books/Book Chapters

1. V Mohanraj, **S. Sibi Chakkaravarthy**, V Vaidehi; Ensemble of Convolutional Neural Networks for Face Recognition, Recent Developments in Machine Learning and Data Analytics, vol 740, 467-477, Springer, Singapore, 2019.
2. V Vaidehi, Ravi Pathak, Renta Chintala Bhargavi, Kirupa Ganapathy, C Sweetlin Hemalatha, A Annis Fathima, PTV Bhuvaneshwari, **Sibi Chakkaravarthy S**, Xavier Fernando. Enhanced Complex Event Processing Framework for Geriatric Remote Healthcare, Handbook of Research on Investigations in Artificial Life Research and Development, 348-379, 2018, IGI Global.

Conference

1. Mohan Raj, I Gogul, M Deepan Raj, V Sathiesh Kumar, V Vaidehi, **S Sibi Chakkaravarthy**; Analyzing ConvNet Depth for Deep Face Recognition, Second International Conference on Computer Vision & Image Processing", CVIP'17, IIT Roorkee, September 09 -12, 2017.
2. **Sibi Chakkaravarthy S** and V. Vaidehi; Drone based Targeted Cyber Attacks: A Practical Study, Doctoral colloquium, IDBRT, November 30 - December 1, 2017.
3. **Sibi Chakkaravarthy S** and V. Vaidehi; Deploying Low Interaction Honeypot for Darknet, Security and Privacy Symposium 2016 (SPS'16), IIITDelhi, February 12-13, 2016.
4. **Sibi Chakkaravarthy S** and V. Vaidehi; Hybrid analysis model to detect Advanced Persistent Threats, International Summer School on Information Security and Protection (ISSISP'16), 02-06 August, 2016. (**Best Research Paper award**).
5. **Sibi Chakkaravarthy S** and V. Vaidehi; Behavior based anomaly detection model for detecting wireless covert attacks in Wi-Fi, Security and Privacy Symposium(SPS'15), IIITDelhi, February 13-14, 2015.
6. Ranjan Mohan, V Vaidehi, Ajay Krishna, M Mahalakshmi, **S Sibi Chakkaravarthy**; Complex Event Processing based Hybrid Intrusion Detection System, ICSCN'15, March 26-28, 1-6, 2015.
7. **S Sibi Chakkaravarthy**, G Sajeevan, E Kamalanaban, KA Varun Kumar; Automatic Leaf Vein Feature Extraction for First Degree Veins, SIRS'15, IIIT Kerala, AISC, 581-592 , Springer.
8. **Sibi Chakkaravarthy S** and V. Vaidehi; Detecting Covert attacks in Wireless networks, International Conference on Cloudification of the Internet of Things, June 10-11, 2015, Paris, France.
9. Kamalanaban Ethala, R Sheshadri, **S Sibi Chakkaravarthy**; WIDS-Real Time Intrusion Detection System using Entropical Approach, ICAEES, Artificial Intelligence and Evolutionary Algorithms, Springer, 73-79, 2014.

Magazine

1. **Sibi Chakkaravarthy S**, Aswani Kumar Cherukuri, Nandeesh Kumar Kumaravelu and Aditya Mitra, “Passwordless Authentication and FIDO: The Future of Security?”, The cutter Edge, pp 6-11, Vol. 35, No.1, February 2022.
2. **Sibi Chakkaravarthy S** and Deepsagar Mandal; “Things you should know about Buffer overflow”, eForensics Magazine, March 2019.
3. **Sibi Chakkaravarthy S**; "Dissecting malwares using sandboxing technique", Pawning through Powershell, PentestMag, November 2016.
4. **Sibi Chakkaravarthy S**; “Volatility: The open source framework for memory forensics”, Open Source for you, October 2016, EFY publishers.
5. **Sibi Chakkaravarthy S**; “Introduction to Qubes”, Open Source for you, March 2016, EFY publishers.
6. **Sibi Chakkaravarthy S**; “Exploring processes using Sysinternals”, Open Source for you, January 2016, EFY publishers.
7. **Sibi Chakkaravarthy S**; “Malware analysis using REMnux” – Second series, Open Source for you, November 2015, EFY publishers.
8. **Sibi Chakkaravarthy S**; “Malware analysis using REMnux”, Open Source for you, October 2015, EFY publishers.
9. **Sibi Chakkaravarthy S**; “Things you should know about Advanced Persistent Threats”, Open Source for you, August 2015, EFY publishers.

Student Research

Achievements

1. S. Sibi Chakkaravarthy, Pranav Kompally, “Vinci X – Smart garment for vital monitoring”, NIDHI PRAYAS, IIT-Hyderabad, **1 Million INR.**

Magazine

1. “Session handling in Node.js: A Tutorial”, Open Source for you, March 2020, EFY publishers.
2. “Tools that Accelerate a Newbie’s Understanding of Machine Learning”, Open Source for you, October 2019, EFY publishers.
3. “An Introduction to Processing, a Tool for Graphics Designers”, Open Source for you, November 2018, EFY publishers.
4. “Designing a simple 3d block jumper game”, Open Source for you, January 2019, EFY publishers.

5. “Things you should know about Buffer overflow”, eForensics magazine, Volume 08, 2019.
6. “Develop a Simple App at Super Speed with Flutter”, Open Source for you, March 2019, EFY publishers.

Selective Journals – Student publications (SCI/SCIE)

1. Sibi Chakkaravarthy Sethuraman, **Gaurav Reddy Tadkapally**, Athresh Kiran, Saraju P Mohanty and Anitha Subramanian; “SimplyMime: A Dynamic Gesture Recognition and Authentication System for Smart Remote Control”, IEEE Sensors, (SCIE).
2. **Aravinth T.M**, Sibi Chakkaravarthy Sethuraman, Devi Priya VS, “mCaptcha: Replacing Captchas with Rate limiters to Improve Security and Accessibility”, Communications of the ACM, Volume 67, Issue 10, pp. 70 – 80, 2024. (SCIE).
3. Sibi Chakkaravarthy Sethuraman, Devi Priya VS, **Tarun Reddi, Mulka Sai Tharun Reddy**, Muhammad Khurram Khan, “A Comprehensive Examination of Email Spoofing: Issues and Prospects for Email Security”, Computers & Security, Elsevier, vol. 135, 103490, 2023. (SCIE).
4. Sibi Chakkaravarthy Sethuraman, **Pranav Kompally**, Saraju P Mohanty, BKSP Raju, Meenalosini Vimal Cruz,” Cleo: Smart Glasses to Monitor Consumption of Alcohol and Cigarettes” , Springer Nature Computer Science, 1-13, Vol.3, Issue. 3, Springer, Jan 2023. Vol. 4, Issue. 1, 1-13.
5. Sibi Chakkaravarthy Sethuraman, **Aditya Mitra**, Kuan-Ching Li, **Anisha Ghosh**, M Gopinath, Nitin Sukhija, “Loki: A Physical Security Key Compatible IoT Based Lock for Protecting Physical Assets”, IEEE Access, Vol.10, 112721-112730, IEEE. (SCIE).
6. **R Chidhambararajan, Aman Rangapur**, S Sibi Chakkaravarthy, Aswani Kumar Cherukuri, Meenalosini Vimal Cruz, S Sudhakar Ilango, “EfficientWord-Net: An Open Source Hotword Detection Engine Based on Few-Shot Learning”, Journal of Information & Knowledge Management, Vol. 21, Issue. 04, 2250059, World Scientific Publishing Company. (SCIE).
7. Sibi Chakkaravarthy Sethuraman, **Gaurav Reddy Tadkapally**, Saraju P Mohanty, Anitha Subramanian, “iDrone: IoT-Enabled Unmanned Aerial Vehicles for Detecting Wildfires Using Convolutional Neural Networks”, Springer Nature Computer Science, 1-13, Vol.3, Issue. 3, Springer, April, 2022.
8. **Dedipyaman Das, S.Sibi Chakkaravarthy**, Suresh Chandra Satapathy, “A Decentralized Open Web Cryptographic Standard”, Computers and Electrical Engineering, **Elsevier, 2022. (SCIE) (Accepted)**
9. **Jatin Karthik Tripathy, S.Sibi Chakkaravarthy**, Meenalosini Vimal Cruz, Anupama Namburu, Mangalraj P, Nandha Kumar R, Sudhakar Ilango and Vaidehi Vijayakumar,

“Comprehensive Analysis of Embeddings and Pre-Training in NLP”, Computer Science Review, Elsevier, Vol.42, November, 2021, (SCIE). (UG Student, B.Tech CSE IV year)

10. **S. Sibi Chakkaravarthy, Pranav Kompally**, Saraju P Mohanty and Uma Chopalli, “MyWear: A Novel Smart Garment for Automatic Continuous Vital Monitoring”, IEEE Transactions on Consumer Electronics, IEEE, 2021. (SCIE). URL: <https://ieeexplore.ieee.org/document/9446547> (UG Student, B.Tech CSE final year)
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14. **Jatin Karthick Tripathy**, S. Sibi Chakkaravarthy, Suresh Chandra Satapathy, Madhulika Sahoo, Vaidehi V, “ALBERT based Fine-Tuning model for Cyberbullying Analysis”, Multimedia Systems, Springer, 2020. (SCIE). (UG Student, B.Tech CSE final year)

Student Achievements

- **1st Runner up, IBM OpenPower Competition 2021, Conducted by IBM, Online event. Student name: Mr. Pranav Kompally, Faculty Mentor: Dr. S. Sibi Chakkaravarthy**

Courses Handled

- Advanced Cyber Security, Winter 2021
- Cyber Security, Theory, Fall 2020, Fall 2021
- Cyber Security and Digital Forensics, Theory, Fall 2020, Fall 2024
- Network Security, Theory and Lab, Winter 2020. Fall 2024
- Problem Solving using Java, Theory and Lab, Fall 2019.
- Web Technologies, Theory and Lab, Fall 2019.
- Problem solving using CPP, Lab, Summer 2018.
- Secure Coding, Theory and Lab, Winter 2018, Winter 2020.

- Computer Graphics, Theory and Lab, Fall 2018. Fall 2021 (Lab).

Reviewer

- **Computer Networks, Elsevier.**
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- **International Journal of Cognitive Informatics and Natural Intelligence (IJCINI), IGI Global.**
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