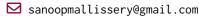
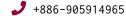
Sanoop Mallissery, Ph.D.











Employment History

Jul/2023 – Jul/2024 Threat Researcher (Intern), Threat Research Department.

TXOne Networks, Taipei, Taiwan

Work Profile: Research on Software Bugs and Vulnerabilities Identification

Industrial Technology Research Institute (ITRI), Taiwan Work Profile: Projects on Systems Software Security/ Intelligent Fuzzing

Aug/2010 – Dec/2016 Assistant Professor, Dept. of Information and Communication Technology.

Manipal Institute of Technology (MIT), Manipal University, India Roles and Responsibilities: Teaching, Research, and Development

Jan/2014 – Dec/2014 Research Assistant, Dept. of Instrumentation, IT and Systems.

ESIGELEC-IRSEEM, France

Work Handled: Cyber Physical Systems (CPS) Security - VANET/ITS

Aug/2006 – Aug/2008 **Lecturer,** Dept. of Information Technology.

Calicut University, India

Roles and Responsibilities: Teaching, Research, and Development

Education

Sep/2017 – Apr/2024 Ph.D., Computer Science (Dependable Systems Security).

CGPA: 4.1/4.3

Department of Computer Science

National Yang Ming Chiao Tung University (NYCU), Hsinchu, Taiwan.

Thesis title: Securing Software Applications with Information Flow Tracking.

Aug/2008 – Aug/2010 M.Tech. (Masters) Cyber Security.

CGPA: 7.51/10

TIFAC Core in Cyber Security, Amrita School of Engineering Amrita Vishwa Vidhyapeetham University, Coimbatore, India

Thesis title: An Efficient Alert Correlation Engine for Intrusion Detection in Network Applications.

Jun/2002 – Jun/2006 B.Tech. (Bachelors) Information Technology.

CGPA: 63%

Department of Information Technology

KMCT College of Engineering, Calicut University, Kerala, India

Thesis title: Voice-Enabled Security: Safeguarding Software Access with Microsoft Speech Recognition.

Research Publications (Top 15 Publications)

Journal Articles [GoogleScholar []] [ORCID] [] [DBLP []]

- Mallissery, Sanoop and Y.-S. Wu, "Demystify the fuzzing methods: A comprehensive survey," ACM Comput. Surv., vol. 56, no. 3, Oct. 2023, ISSN: 0360-0300. ODI: 10.1145/3623375.

- Mallissery, Sanoop, M. M. Pai, M. Mehbadi, R. M. Pai, and Y.-S. Wu, "Online and offline communication architecture for vehicular ad-hoc networks using ns3 and sumo simulators," *J. High Speed Netw.*, vol. 25, no. 3, pp. 253–271, Jan. 2019, ISSN: 0926-6801. ODI: 10.3233/JHS-190615.
- Y. Mehta, M. M. Pai, **Mallissery, Sanoop**, and R. M. Pai, "Cloud-enabled smart health monitoring of vehicles: An its application," *Advanced Science Letters*, vol. 23, no. 4, pp. 3709–3713, Apr. 2017. **9** DOI: 10. 1166/asl.2017.9016.
- M. B. Reddy, M. M. Pai, **Mallissery, Sanoop**, R. M. Pai, and M. Mahbadi, "Congestion free vehicular path planning system: A real-time cloud-enabled its application," *Advanced Science Letters*, vol. 23, no. 4, pp. 3674–3678, Apr. 2017. ODI: 10.1166/asl.2017.9017.

Conference Proceedings [GoogleScholar [2]] [ORCID] [2] [DBLP [2]]

- Mallissery, Sanoop and Y.-S. Wu, "Enriching the semantics of information flow tracking with source-level memory allocation event logging," in 2023 IEEE Conference on Dependable and Secure Computing (DSC), 2023, pp. 1–10. ₱ DOI: 10.1109/DSC61021.2023.10354156.
- Y.-H. Hung, B.-J. Jheng, H.-W. Li, W.-Y. Lai, **Mallissery, Sanoop**, and Y.-S. Wu, "Mixed-mode information flow tracking with compile-time taint semantics extraction and offline replay," in 2021 IEEE Conference on Dependable and Secure Computing (DSC), 2021, pp. 1–8. ODI: 10.1109/DSC49826.2021.9346239.
- Mallissery, Sanoop, M.-C. Wu, C.-A. Bau, et al., "Poster: Data leakage detection for health information system based on memory introspection," in *Proceedings of the 15th ACM Asia Conference on Computer and Communications Security*, ser. ASIA CCS '20, Taipei, Taiwan: Association for Computing Machinery, 2020, pp. 898–900, ISBN: 9781450367509. ODI: 10.1145/3320269.3405437.
- S.-H. Chang, **Mallissery, Sanoop**, C.-H. Hsieh, and Y.-S. Wu, "Hypervisor-based sensitive data leakage detector," in 2018 IEEE International Conference on Software Quality, Reliability and Security (QRS), 2018, pp. 155–162. ODI: 10.1109/QRS.2018.00029.
- M. Mahbadi, M. M. Manohara Pai, **Mallissery, Sanoop**, and R. M. Pai, "Cloud-enabled vehicular congestion estimation: An its application," in 2016 IEEE Canadian Conference on Electrical and Computer Engineering (CCECE), 2016, pp. 1–4. ODI: 10.1109/CCECE.2016.7726829.
- Y. Mehta, M. Manohara Pai, **Mallissery, Sanoop**, and S. Singh, "Cloud enabled air quality detection, analysis and prediction a smart city application for smart health," in 2016 3rd MEC International Conference on Big Data and Smart City (ICBDSC), 2016, pp. 1–7. ODOI: 10.1109/ICBDSC.2016.7460380.
- Mallissery, Sanoop, M. Manohara Pai, N. Ajam, R. M. Pai, and J. Mouzna, "Transport and traffic rule violation monitoring service in its: A secured vanet cloud application," in 2015 12th Annual IEEE Consumer Communications and Networking Conference (CCNC), 2015, pp. 213–218. ODI: 10.1109/CCNC.2015.7157979.
- Mallissery, Sanoop, M. M. Manohara Pai, R. M. Pai, and A. Smitha, "Cloud enabled secure communication in vehicular ad-hoc networks," in 2014 International Conference on Connected Vehicles and Expo (ICCVE), 2014, pp. 596–601. ODI: 10.1109/ICCVE.2014.7297617.
- Mallissery, Sanoop, M. M. M. Pai, A. Smitha, R. M. Pai, and J. Mouzna, "Improvizing the public key infrastructure to build trust architecture for vanet by using short-time certificate management and merkle signature scheme," in 2014 Asia-Pacific Conference on Computer Aided System Engineering (APCASE), 2014, pp. 146–151. ODI: 10.1109/APCASE.2014.6924489.

Skills

Coding [mygit - git4san

C/C++, Python, PHP, SQL, XML/XSL,

ETEX

Databases MySQL, SQLite

Compilers GCC, G++, Clang, LLVM

Data Sci. Frameworks TensorFlow, PyTorch, Scikit-learn

Cybersecurity Tools Wireshark, Metasploit, Nmap, Snort, Nessus, Burp Suite, Kali Linux

Virtualization Tools QEMU, Hyper-V, Oracle VBOX, VMWare

Web Dev HTML, css, JavaScript, Apache Web Server, Tomcat Web Server

Project Mgmt. Tools | Jira, Confluence, GitHub, GitLab, Slack, Keybase.io, Microsoft Teams

Net. Frameworks **Record Record Reco**

VANET Tools NS-3 (Network Simulator 3), SUMO (Simulation of Urban Mobility)

Operating Systems Linux (Ubuntu, Kali), macOS, Windows

Misc. Academic research, teaching, training, consultation, Large typeset and publish

Languages Strong reading, writing and speaking competencies for English, Mandarin Chinese (Beginner), French (Beginner), Malayalam (Native Language)

Miscellaneous Experience

Awards and Achievements

Outstanding Student awarded by National Yang Ming Chiao Tung University (NYCU), Taiwan from Sep/2017-Apr/2024.

Joint Co-op Program awarded by Industrial Technology Research Institute (ITRI) and National Yang Ming Chiao Tung University (NYCU), Taiwan from Oct/2017-Dec/2021.

Best Paper Award at the Internet-Informatics conference in Indonesia.

Best Research Poster Award at the Manipal University Research Colloquium in India.

IEEE Best Paper Award at IEEE MEC conference in Oman.

IEEE Best Paper Award at IEEE APCASE conference in Indonesia.

Research Funding and Grants I was Part of

2023 Empowering Targeted Dynamic Information Flow Tracking with Edge Intelligence.

Awarded by: Foxconn Technology Group, Taipei.

Principal Investigator: Dr. Yu-Sung Wu, Professor, Department of Computer Science, NYCU.

My Role: Research Student.

Amount Granted: Can't Disclose

Large Language Model for Code Generation.

Awarded by: Foxconn Technology Group, Taipei.

Principal Investigator: Dr. Yu-Sung Wu, Professor, Department of Computer Science, NYCU.

My Role: Research Student.

Amount Granted: Can't Disclose

2017 | IFT with Source-Level Memory Allocation Event Logging.

Awarded by: National Science and Technology Council, Taipei, Taiwan.

Principal Investigator: Dr. Yu-Sung Wu, Professor, Department of Computer Science, NYCU.

My Role: Research Student.

Amount Granted: Can't Disclose

Miscellaneous Experience (continued)

Neural Program Training for IFT and Sentential Insight Generation.

Awarded by: National Science and Technology Council, Taipei, Taiwan.

Principal Investigator: Dr. Yu-Sung Wu, Professor, Department of Computer Science, NYCU.

My Role: Research Student.

Amount Granted: Can't Disclose

■ Intelligent Fuzzing to Uncover Software Vulnerabilities with Increased Code Coverage.

Awarded by: Industrial Technology Research Institute (ITRI), Hsinchu, Taiwan.

Principal Investigator: Dr. Ares Cho, Director of the Infrastructure and Cybersecurity Division, ITRI, Taiwan.

My Role: Research Scholar.

Amount Granted: Can't Disclose

Connected Cars Services and Apps (Development and Deployment of Predictive Analytics Vehicular Ad-hoc Network (VANET) Application on IBM Bluemix Cloud.

Awarded by: IBM Private Limited, Bangalore, India.

Principal Investigator: Dr. Manohara Pai M.M., Professor, Department of I&CT, Manipal Institute of Technology (MIT), Manipal University, Manipal, India.

My Role: Co-Investigator.

Amount Granted: US\$ 8000

Cloud enabled Application Development and Deployment for Drones using IBM Bluemix Cloud.

Awarded by: IBM Private Limited, Bangalore, India.

Principal Investigator: Dr. Manohara Pai M.M., Professor, Department of I&CT, Manipal Institute of Technology (MIT), Manipal University, Manipal, India.

My Role: Co-Investigator.

Amount Granted: US\$ 8000

Other Key Academic Merits

Professional Membership/Committee Member [Web of Science #]

- Institute of Electrical and Electronics Engineers (IEEE).
- Association for Computing Machinery (ACM).
- IEEE Consumer Technology Society (CTSoc) Security & Privacy of CE H/w and S/w Systems (SPC).
- International Society for Applied Computing (ISAC).

Journals/Conference Reviewer [Web of Science #]

- IEEE Transactions on Information Forensics and Security (TIFS), Transactions on Reliability.
- IEEE Access, IEEE Internet of Things Journal.
- ACM Computing Surveys.
- Software Practice and Experience, Electronics Letters (Wiley), PeerJ Computer Science.
- IEEE Dependable and Secure Computing (DSC), ACM ASIA Conf. on Computer and Communications Security (ASIA CCS), IEEE Pacific Rim Int. Sym. on Dependable Computing (PRDC).

References

Available on Request