

Dr. R. ASHOKA RAJAN M.E.,Ph.D

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**EDUCATION QUALIFICATION**

- **PhD (ICE):** Anna University, Chennai, April 2019
- **M.E (CSE):** R.V.S College of Engineering and Technology with First Class, 2011.
- **B. Tech (IT):** S.S.N College of Engineering with First Class, 2006.

AREAS OF INTEREST

- Theory of Computation
- Compiler Design
- Data Structures and Algorithms
- Design and Analysis of Algorithms
- AWS Solution Architect
- Programming in C/C++/Java

EXPERIENCE (15 Years)

- At present, working as Assistant Professor in the Department of Computer Science and Engineering, **Anna University**, Thoothukudi Campus
- Worked as Assistant Professor Senior Grade 1 in the Department of Computer Science and Engineering (SCOPE), **VIT University**, Chennai Campus from 3rd June onwards (3 Years)
- Worked as Assistant Professor in the Department of Computer Science and Engineering, **SASTRA Deemed to be University**, Thanjavur from 5th July 2018 to April 2020. (2 Years)
- Worked as Teaching Fellow in the Department of Information Technology, Madras Institute of Technology, **Anna University** from July 2011 to July 2018. (7 Years)

MoU

Dr. Swaminathan A, **Dr. Ashoka Rajan. R** and Dr. Amrit Pal signed an MoU with Sankara Nethrayala for the duration of next three years (from May 2023) for collaborative research activities.

CONSULTANCY PROJECTS

Swaminathan A and **Ashoka Rajan R**, received a new consultancy project during the financial year (2021-22) from Sankara Nethralaya. This consultancy project is proposed on “Automatic Analysis of Ophthalmic Images using Biomedical Image Processing and Deep Learning Analysis” for the amount of Rs. 2,95,000.

PATENT

A Patent is published on the invention titled, “Automatic Accident Detection system to prevent and avoid accident and surveillance systems using IoT and deep learning Algorithms” on 16/09/2022.

A patent is published on the invention titled, “Edge-Assisted Deep Learning Models for Intelligent Video Analytics in Smart City Surveillance” on 22/07/2023.

WORKSHOPS / CONFERENCE / WEBINARS ORGANIZED / ATTENDED

- Presented a paper titled, “Temperature Monitoring Mechanism for Covid-19 Using WSN” in ICACCS 2022: 2022 8th International Conference on Advanced Computing and Communication Systems organized by Sri Eshwar College of Engineering, Coimbatore held during March 25-26, 2022.
- Organized a webinar on “Data Science and its Values in Decision Making” by Dr. Ernest Johnson, Associate Professor, University of Regina on February 23rd 2022 at VIT Chennai.
- Organizing committee member of 3rd International Conference on Recent Trends in Advanced Computing(ICRTAC-AIT 2020) held during 17th and 18th December 2020 organized by VIT Chennai.
- Participated in the Webinar on, “Future Prospects for Electrical Engineering” organized by Department of EEE, Amrita College of Engineering and Technology, Nagercoil on 30th July 2020.

- Participated in Amrita – Hebeon Online Webinar cum Workshop on “Data Science using Python” for faculty members using Microsoft Team platform organized by Amrita College of Engineering and Technology, Nagercoil and Hebeon Technologies, Hyderabad during 17th June 2020 to 25th June 2020.
- Participated in the First International Conference on Innovative Technology for Sustainable Development (ICITSD) held during January 27-29, 2021, organized by VIT Chennai
- Reviewed the articles submitted for the First International Conference on Innovative Technology for Sustainable Development (ICITSD) held during January 27-29, 2021, organized by VIT Chennai
- Participated the International Virtual Conference Industry 4.0(IVCI 4.0-2020) held during July 6th and 7th 2020 organized by VIT Chennai in association with Manchester Metropolitan University, UK.
- Presented a paper titled, “A Novel Tree Based Shuffling Technique for Fingerprint Template Security” at the IEEE 5th International Conference on Trends in Electronics and Informatics (ICOEI2021) organised by SCAD College of Engineering and Technology, Tirunelveli, TamilNadu, India during 3-5, June 2021.
- Presented a paper titled, “Privacy-Preserving in Fingerprint Templates Security Using Combinatorial Logic Circuits” International Conference on Soft Computing for Security Applications (ICSCS2021) organised by Dhirajlal Gandhi College of Technology, Salem, India during 10-11, June 2021.
- Participated in the Webinar on, “How to file Patent, Copyright and Trademark” held on 4th October 2020 organized by Research Circle
- Participated in the Webinar on, “Automated Testing Using Selenium Tool” conducted on 11th July 2020 at VIT Chennai.
- Participated in the Webinar titled, “How to Manage Paper Reviews Effectively” organized by Shree Devi Institute of Technology , Kenjar, Mangaluru on 10th August ,2020
- Workshop on “Hyper spectral Remote Sensing and its applications” conducted by Indian Institute of Remote Sensing (IIRS), held from January 21, 2019 to February 01, 2019.
- DST-PURSE Sponsored Workshop on “Internet of Things (IoT)” held on 4th November 2016 at Department of IT, MIT Campus, Anna University.
- Workshop on “ IoT, Cloud & Big Data” conducted by Department of CSE, Anna University, Chennai, held from 28th to 30th Sep 2016.

- Certificate course on “Intellectual Property Rights Procedures & Best Practices” held from 27-30 July 2016 at CIPR, Anna University, Chennai
- Workshop on “Java Programming” held from 28th to 30th Aug, 2015 at MIT Campus, Anna University.
- Workshop on “Big Data Analytics” held from 21st to 22nd Nov 2014 at MIT Campus, Anna University.
- Short term courses on CORE JAVA held from 17th to 22nd, June 2013 at the Computer Centre, MIT Campus, Anna University.
- UGC, New Delhi sponsored seminar on “Mobile and Pervasive Computing”, held during 6th and 7th March, 2013 at MIT, Anna University, Chennai.
- Workshop on “Recent Developments in Neural Networks” held from 3rd to 5th Oct, 2012 at MIT Campus, Anna University.
- Workshop on “Simulation of Advanced Networks using NS-2 (WSAN’12)” held on 6, 7 Jan 2012 at MIT Campus, Anna University.
- Workshop on “Simulation of Advanced Networks using NS-2 (WSAN’12)” held on 2, 3 Dec 2011 at MIT Campus, Anna University.
- Workshop on “Research Methodologies” held on 24, 25 Sep 2011 at Dept of CSE, CEG Campus, Anna University.

FDP ATTENDED

- Participated in Online Faculty Training Program organized by VIT Chennai during 4th June 2020 to 1st July 2020
- FDP on “**Theory of Computation**” held from Jul-Sep 2019 by NPTEL-AICTE through online.
- FDP on “**Effective Coding Skills**” held on 28th May 2016 at CTS Siruseri, Chennai.
- FDP on “**Industry Ready Programming Skills**” held on 25th July 2015 at CTS Siruseri, Chennai.
- FDP on “**Principles of Compiler Design**” held from 4th to 10th Dec, 2014 at Dept of IT, MIT Campus, Anna University.
- FDP on “Sustainable **Infrastructure**” held on 13th Jan 2012 at TCS Siruseri, Chennai.

ONLINE CERTIFICATION

- Completed the **AWS Certified Solutions Architect – Associate** certification issued by Amazon Web Services in 2024.
- Achieved **All India Topper** in the NPTEL **Compiler Design** examination conducted in April 2024.
- Completed online course on “**Theory of Computation (Elite)**” conducted by **NPTEL** during Jul-Sep 2019.
- Completed online course on “**Hyper spectral Remote Sensing and its applications**” conducted by **Indian Institute of Remote Sensing** during Jan 21 to Feb 01, 2019

PUBLICATION DETAILS

INTERNATIONAL JOURNALS:

1. Gokuldhev, M., Raju, D., **Ashoka Rajan R.**, and Indu, V.T., 2022. Darts game optimization with intuitionistic fuzzy kernel ridge regression for IoT based smart farming model. *International Journal of Information Technology*, 14(6), pp.3123-3131.
2. **Ashoka Rajan, R.**, Pon Bharathi, A. and Sarika, A.S., 2022. Multimodal Biometric Template Transformation Approach using a List Ranking Algorithm. *Review of Computer Engineering Research*, 9(4), pp.239-249.
3. Kumar, S., **Ashoka Rajan, R.**, Swaminathan, A. and Johnson, E., 2023. Hyper-personalization and Its Impact on Customer Buying Behaviour. In *Data Intelligence and Cognitive Informatics* (pp. 649-664). **Springer**, Singapore.
4. Bharathi, A.P., Swathi, S., Wilson, A.J. and **Ashoka Rajan R.**, 2022, March. Temperature Monitoring Mechanism for Covid-19 Using WSN. In *2022 8th International Conference on Advanced Computing and Communication Systems (ICACCS)* (Vol. 1, pp. 1279-1286). IEEE.
5. Patil, A.A., Swaminathan, A. **Ashoka Rajan R** and Gayathri, R., 2022, October. Human Action Recognition using Skeleton features. In *2022 IEEE International Symposium on Mixed and Augmented Reality Adjunct (ISMAR-Adjunct)* (pp. 289-296). IEEE.

6. **Ashoka Rajan R** and Kumaran, P., 2022. Privacy-Preserving in Fingerprint Templates Security Using Combinatorial Logic Circuits. In *Soft Computing for Security Applications* (pp. 953-968). Springer, Singapore. **(Scopus)**
7. **Ashoka Rajan R** and P.Kumaran., "Multi-Biometric Cryptosystem Using Graph for Secure Cloud Authentication", *Journal of Intelligent and Fuzzy Systems*, vol. 38, no. 5, pp. 6437-6444, 2020, **(SCI)**
8. G.Rajesh, X.Mercilin Raajini, **Ashoka Rajan R**, M.Gokul Dev, C.Swetha," A Multi-Objective routing optimization using swarm intelligence in IoT ", *Lecture Notes in Networks and Systems Series (LNNS, volume 118)*, *Intelligent Computing and Innovation on Data Science*, pp.603-613, Springer **(Scopus)**
9. Kumaran P and **Ashoka Rajan R**, "Template Protection Using Multibiometric Web Modulo Graph" *Journal of Computational and Theoretical Nanoscience*, 16(11), pp.4883-4888 **(Scopus)**
10. **Ashoka Rajan R** and P. Anandhakumar. "Multi-Biometric Cryptosystem Based on Generation of Graphs Using Feature Vectors." *Journal of Computational and Theoretical Nanoscience* 14.12 (2017): pp. 5837-5843. **(Scopus)**

INTERNATIONAL CONFERENCES:

1. **Ashoka Rajan R**, Kumaran, P., 2021, June A Novel Tree Based Shuffling Technique for Fingerprint Template Security. In *2021 5th International Conference on Trends in Electronics and Informatics (ICOEI)* (pp. 522-530) IEEE
- 2 **Ashoka Rajan R**, P.Kumaran" Fingerprint Template Security using Angle-Based Transformation Functions", *IEEE International Conference on Intelligent Techniques in Control, Optimization and Signal Processing (INCOS)* (pp. 1-7), 2019
3. **Ashoka Rajan R**, P.Kumaran." Multi-Biometric Cryptosystem Using Graph for Secure Cloud Authentication", 5th International Symposium on Intelligent System Technologies and Applications (ISTA'19), December 18-21, 2019, IIITM-K, Trivandrum
4. **Ashoka Rajan R**, and P. Anandhakumar," Combined Additive and Multiplicative Modulo Encryption and Transformation Approach for Fingerprint Template Security" in *ICoAC' 14*, IEEE conference held in MIT, Anna University **(Received Best Paper Award)**

5. **Ashoka Rajan R**, and P. Anandhakumar, "A Novel Approach for Secure ATM Transactions Using Fingerprint Watermarking" in ICoAC' 13, IEEE Conference held in MIT, Anna University.
6. **Ashoka Rajan R**, and P. Anandhakumar, "Finger Print Enhancement Using O-F Estimation and Recognition for Cloud Security" in ICoAC' 13, IEEE conference held in MIT, Anna University
7. **Ashoka Rajan R**, and P. Anandhakumar," Secure and Energy Efficient Management of Routing using Gaussian Factor Method in Multihop Wireless Networks" in ICoAC' 14, IEEE conference held in MIT, Anna University.
8. **Ashoka Rajan R**, and P. Anandhakumar," Providing Fingerprint Template Security using Two-level Encryption Approach" in ICoAC' 14, IEEE conference held in MIT, Anna University.
9. **Ashoka Rajan R**, Sudha, N. and P.Anandhakumar., 2013, December, "OF estimation based on curved Gabor Filter for fingerprint image enhancement", In 2013 Fifth International Conference on Advanced Computing (ICoAC) (pp. 405-412). IEEE.

NATIONAL CONFERENCE:

1. **Ashoka Rajan R**, "Using Attack Aware Routing and Wavelength Assignment in Optical Network Security" in NCRTIT'11 held in M.P.Nachimuthu M.Jaganathan Engineering College, Chennimalai, Erode