

Dr. Vidhya K

Assistant Professor (Selection Grade),
Division of Data Science and Cyber Security,
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Academic Background

| Degree | University | Year |
|-----------|---|------|
| Ph.D(I&C) | Anna University, Chennai | 2022 |
| M.E (CSE) | Government College of Technology, Coimbatore | 2011 |
| B.E(CSE) | Muthayammal Engineering College, Rasipuram | 2004 |

Work Experience

Experience in Teaching : 18 Years 5 Months
Experience in Industry : 1 Year 4 Months

Key Areas of Focus

- 🔗 Generative AI and Language Models
- 🔗 Deep Learning and its Applications
- 🔗 Fuzzy & Neural Techniques in Vision
- 🔗 Cloud Computing
- 🔗 Patterns Identification
- 🔗 Internet of Things
- 🔗 Computer Vision

Research Specifics

Accomplished research on a socially relevant domain under the title "**Application of DeepLearning Techniques in Healthcare Data to Analyze the Prevalence of Diabetes and its Complications**", under the guidance of Dr.R.Shanmugalakshmi , Principal and Professor, Alagappa Chettiar Government College of Engineering and Technology, Karaikudi, Tamilnadu, India, 2022 January.

Publication Details

-  K.Vidhya et a, "**IoT based Automated Myo Neuro Stimulator for Neuro Paralytic Patients**", AIP Conf. Proc. 3035, 020008 (2024), <https://doi.org/10.1063/5.0200225>
Scopus Indexed
-  K.Vidhya et al. "**A comparative recognition research on excretory organism in medical applications using neural networks**". Multimedia Tools Applications (2023), Science Citation Indexed.
-  K.Vidhya et al. "**Detection and Diagnosis of Age-related Macular Degeneration Using Recurrent Neural Network with Cloud Architecture and Internet of Things**", Journal of Intelligent and Fuzzy Systems, 2023, 45(6), pp. 11093–11105.
Science Citation Indexed
-  K.Vidhya et al., "**Agricultural Farm Production Model for Smart Crop Yield Recommendations Using Machine Learning Techniques**", MDPI Journal of Engineering Proceedings, 2023, Volume No.59, Issue No.1.PP.20, Scopus Indexed.
-  K.Vidhya et.al, "**Qsecurity: Securing Outsourced Cloud Data Management with Multi Level Access Control by Using SGX** , AIP Conf. Proc. 2764, 060005 (2023), Volume 2764, Issue , <https://doi.org/10.1063/5.0144405>, Scopus Indexed.
-  K.Vidhya et.al, "**Enhanced Cloud Storage Security using Elliptic Curve Cryptography and Entity-based Access Control**", AIP Conf. Proc. 2764, 060011 (September-2023),<https://doi.org/10.1063/5.0145589>, Scopus Indexed
-  K.Vidhya et.al, "**Kidney Impairment Prediction Due to Diabetes Using Extended Ensemble Learning Machine Algorithm**", Journal of Machine and Computing, Anapub Publications, 3, 312-325, Jul 2023, 10.53759/7669/jmc202303027, 0.511, Scopus Indexed
-  K.Vidhya et.al, "**Effectiveness of deep learning in early stage oral cancer detections and classification using histogram of oriented gradients**", Journal of Expert Systems, Wiley, 0, 1-20, Aug 2023, 10.1111/exsy.13439, 0.66. SCI, Scopus Indexed

- ✚ K.Vidhya et.al, " **Kohonen self-organizable maps based classification of optical code division multiple access codes**", 2023,6th International Conference on Inventive Computation Technologies(ICTICT2023), IEEE Explore, Scopus Indexed
- ✚ K. Vidhya et. al, "**Hybrid AI Model for Arthritis Prediction from Medical Image**," 2022 3rd International Conference on Smart Electronics and Communication (ICOSEC), Trichy, India, 2022, pp. 1476-1482, doi: 10.1109/ICOSEC54921.2022.9952029- IEEE Digital Explore, Scopus Indexed
- ✚ K. Vidhya et.al, "**DL-based Rheumatoid Arthritis Prediction using Thermal Images**," 2022 Sixth International Conference on I-SMAC (IoT in Social, Mobile, Analytics and Cloud) (I-SMAC), Dharan, Nepal, 2022, pp. 1119-1124, doi: 10.1109/I-SMAC55078.2022.9987398 , IEEE Digital Explore, Scopus Indexed
- ✚ K. Vidhya et.al, "**Deep Belief Network (DBN) Approach for Classification of COVID-19 Impact on People with Diabetes**", Turkish Online Journal of Qualitative Inquiry (TOJQI),Volume 12, Issue 3, June 2021: 28 – 40. Scopus Indexed
- ✚ K. Vidhya et.al, "**Covid -19 Prevalence Prediction Using Resnet -50 Deep Learning Technique**", Turkish Online Journal of Qualitative Inquiry (TOJQI), Volume 12, Issue 3, June 2021:01 – 09, Scopus Indexed
- ✚ K. Vidhya et.al, "**Machine Learning Approach to Prevent Malicious Calls over Telephony Networks**", Turkish Journal of Computer and Mathematics Education, Vol 12 No.9,pages 1767-1771,2021, Scopus Indexed
- ✚ K. Vidhya et.al, "**Covid-19 Future Forecasting Using Supervised Machine Learning Models**", Annals of the Romanian Society for Cell Biology, volume 25 Issue 5,560-569,May 2021. , Scopus Indexed
- ✚ K. Vidhya et.al, "**Improved CNN Based Data Analytic Model for Diabetic Retinopathy Prediction**", European Journal of Molecular & Clinical Medicine ISSN 2515-8260 Volume 7, Issue 11, 2020, Scopus Indexed
- ✚ Vidhya, K., Shanmugalakshmi, R. "**Modified adaptive neuro-fuzzy inference system (M-ANFIS) based Multi-disease Analysis of Healthcare Big Data**" Journal of Super Computing (2020). <https://doi.org/10.1007/s11227-019-03132-w>, SCI & Scopus Indexed, IF 2.423
- ✚ Vidhya, K., Shanmugalakshmi, R, "**Deep Learning Based Big Medical Data Analytic Model for Diabetes Complication Prediction**". Journal of Ambient Intelligence and Humanized Computing (2020). <https://doi.org/10.1007/s12652-020-01930-2>, SCI & Scopus Indexed, IF 3.662
- ✚ K. Vidhya et.al, '**Student Mood Analyzer using Convolutional Neural Network**', Journal of Critical Review, Volume 7, Issue 11, July 2020, Scopus Indexed

- ✚ K. Vidhya et.al, **“Improved Diabetic Data Analytic Model for Complication Prediction”**, International Journal of Engineering and Advanced Technology, Blue Eyes Intelligence Engineering and Sciences Engineering and Sciences Publication - BEIESP, 8, 224-230, Sep 2019, 10.35940/ijeat.f1045.0886s19, Scopus Indexed
- ✚ K. Vidhya et.al, **‘Machine Learning Algorithms for Disease Diagnosis-Literature Review’**, International Journal of Latest Technology in Engineering , Management and Applied Science, 2019, Volume 8, Issue 3, Page No.25-28, Scopus Indexed
- ✚ K. Vidhya et.al, **‘Survey- ABE Based Secured Cloud Storage’**, International Journal of Latest technology in Engineering, Management and Applied Science, 2019, Volume 8, Issue 3, Page No.117-123, Scopus Indexed
- ✚ K. Vidhya et.al, **‘AI Powered Content Moderation’**, International Conference on Innovations in Robotics, Intelligent Automation and Control (ICIRIAC)-October 2022
- ✚ K. Vidhya et.al, **‘AI based Smart Water Management System at Home’**, International Conference on Industrial Water, Energy and Environment (ICIWE2 2019)
- ✚ K. Vidhya et.al, **‘Improved big diabetic data analytic model for complication prediction’**, International Conference on Intelligent Computing and Smart Communication Technologies, 2019
- ✚ K. Vidhya et.al, **‘Cloud Based Framework to handle and analyses Diabetes Data’**, International Journal of Innovation and Scientific Research, 2016, Volume 22, Issue 2, Page-401-407, Scopus Indexed
- ✚ K. Vidhya et.al, **‘Study of Algorithms for Securing Data Stored in Cloud’**, International Journal of Emerging Trends in Science and Technology, 2016, Volume-3, Issue-2, Pages-3763-3769, Scopus Indexed
- ✚ K. Vidhya et.al, **‘Securing personal health records stored in the public cloud using improved blowfish algorithm’**, 2016, Global Journal of Advanced Engineering Technologies and Sciences, Volume 3, Issue 3, Page 16-21
- ✚ K. Vidhya et.al, **‘A survey: Fuzzy Based Clustering Algorithms for Big Data’**, 2015, International Journal of Advances in Engineering Science and Technology, Volume 4, Issue 3, Page 202-208, Scopus Indexed
- ✚ K. Vidhya et.al, **‘Literature Survey-Cloud Security’**, 2015, International Journal of Innovative Research & Development, Volume 2, Issue 1, Scopus Indexed
- ✚ K. Vidhya et.al, **‘IAAC: Ensuring CIA And CP-ABE Based Access Control For Secured Storage In Cloud Computing’**, International Journal of Engineering Research & Technology (IJERT), 2015, Volume 2, Issue 3, Page 1-7, Scopus Indexed

Patent Published

| S.No. | Title of the Patent | Reference No. | State(Published/Granted) |
|-------|--|----------------|--------------------------|
| 1 | Smart Raspberry-Pi Network Attached Storage | 202241023495 A | Published |
| 2 | IoT based Automated Myo Neuro Stimulator for Neuro Paralytic Patients | 202041031299 | Published |
| 3 | Smart Amphiglass for Amblyopia | 201941030667 | Published |
| 4 | An Improvised Model that uses Machine Learning for the purpose of Forecasting the Price of Bitcoin | 202331001585 | Published |

Product Development

- 🚀 Smart Raspberry-Pi Network Attached Storage- (Prototype Model)
- 🚀 IoT Based Automated MyoNeuro Stimulator for Neuro Paralytic Patients-(Prototype Model)
- 🚀 AI Based Smart Water Management System (Smart Campus Project)- (Prototype Model)
- 🚀 Smart Amphiglass for Amblyopia - (Prototype Model)

Book Authored & Book Chapters Authored

- 🚀 Authored Book Titled, “ Internet of Things”, 2023, Charulatha Publications, ISBN-13:978-93-5577-585-6
- 🚀 Authored Book Titled,” Bigdata Management”,2023, Alpha International Publications, ISBN: 978-93-95978-84-2
- 🚀 Authored book Titled ‘Artificial Intelligence’, 2019, R2017-Anna University Chennai-, GEM Publications.
- 🚀 Authored Book chapter Titled,‘IoT in Health Care : An Extensive Review on Recent Advances ,Challenges and Opportunities’ ,2019,IGI Global: International Publisher of Information Science and Technology Research-Scopus Indexed
- 🚀 Authored Book chapter Titled, ‘IoT, AI and Machine Learning - Covid-19 and Its Impact’-Asia Book of Records- ESN Publications ,December 2020

Technical Competency

Language Models

Knowledge on Generative AI with Diffusion Models

Deep Learning

Libraries Experienced: Keras, TensorFlow, OpenCV, Scikit-Image, NVIDIA CUDA-XKerKeras

- 🚦 Applied Deep learning techniques to address the use cases related to Healthcare data analytics
- 🚦 Coursera certified on “ Introduction to TensorFlow for Artificial Intelligence, Machine Learning, and Deep Learning”
- 🚦 NVIDIA certified on “Fundamentals of Deep Learning for Computer Vision”

Cloud Computing

- 🚦 Conducted Two Weeks Internship and Industrial Training on “AWS Cloud Computing”
- 🚦 Experience in AWS Services – S3,EC2,IAM and Sage Maker
- 🚦 Established Cloud Computing Special lab
- 🚦 Crated Private Cloud Setup with
 - OpenStack – MeghaDoot Setup(CDAC,Chennai)
 - VMware ESX Server 4.0 & Vsphere Client,Opennebula
- 🚦 Addressed use cases related to Infrastructure as a Service(IaaS)
- 🚦 Coursera certified on “Data Engineering on Google Cloud Platform”, specialization Course (Integrated 5 Courses)
- 🚦 Experience with Hadoop-BigData Analytics
- 🚦 Completed training on ‘OpenStack Integrator - Intermediate Level’ – Centre for Development of Advanced Computing(CDAC), Chennai

Other Core Qualifications

- 🚦 Proficiency in Programming languages: C, C++, Java, Python
- 🚦 Comfortable working within non-GUI Linux Shell environments
- 🚦 Experience in prototyping, designing and implementing Machine Learning System
- 🚦 NPTEL Certified on ‘Programming Foundations with JavaScript, HTML and CSS’ ,2020

- ✚ Good focus on high quality deliverables and passionate about learning new technologies

Skilled and fascinated in

- ✚ Curriculum Development
- ✚ Instructional Material Creation
- ✚ Technical Training
- ✚ Web-based Training
- ✚ Technical Writing & Illustration

Resource Person

- ✚ Delivered Technical Seminar on “Realtime Applications of C Programming”, on 12.05.2022, Arjun College of Technology, Coimbatore
- ✚ Delivered Technical Seminar on “Virtualization Vs Containerization with Docker-An Overview”, on 23.07.2021, The institution of Engineers, Tirunelveli
- ✚ Delivered Hands-on session on “Academic Community Cloud Setup - Infrastructure as Service(IaaS) on 05.08.2019 at KPR institute of Engineering and Technology, Coimbatore
- ✚ Handled Cloud Computing Value Added Course for final year students and trained them for Cloud Infrastructure Associate (CIA) certification exam given by EMC2 ,03.02.2015, at Sri Shakthi Institute of Engineering and Technology-Coimbatore
- ✚ Handled session in Two Day workshop on “Private Cloud Setup – OpenStack” during 30th & 31st AUGUST, 2015, at Sri Shakthi Institute of Engineering and Technology-Coimbatore
- ✚ Resource person for AICTE sponsored FDP in “Cloud and Green Computing Techniques” at Muthayammal Engg.College,Rasipuram on 23-03-2015, Delivered contents in the area of “Virtualization in cloud computing”