

From

Dr. ANJU ASOKAN

KTU-F48829

To

The Principal

JYOTHI COLLEGE OF ENGINEERING

Cheruthuruthy

Sir,

Sub: Application for the post of faculty in CSE-AI

I would like to apply for the faculty position in CSE-AI ML department in your college. I am currently working as Assistant professor in the department of **CSE and CSE-AI ML** at Nehru College of Engineering and Research centre, Pampady from Sept 2024. Previous to that I had worked at Sri Eshwar College of Engineering, Coimbatore in the department of **Computer and Communication Engineering** for 2 years and Sri Krishna college of Technology, Coimbatore in the department of ECE for 1.5 years. I also have one year of industrial experience at Tata Elxsi, Trivandrum. I completed my PhD from Karunya Institute of Technology and Sciences in 2021 in the area of Image processing and AI. I have attached my resume for your reference.

Thanks and regards



Dr. ANJU ASOKAN

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Career Objective:

To work in a responsible position and keep adding value to the organization I serve and keep myself upgraded in the best of skills.

Academic background:

Class	Institution/Board	Qualifying Year	CGPA/Percentage
PhD, Image Processing	Karunya Institute of Technology and Sciences	2021	8.77
M.Tech, VLSI	Amrita School of Engineering, Coimbatore	2016	9.73(4 th Rank)
B.Tech, ECE	Cochin University of Science and Technology	2014	83.7 %
XIIth	Bhavan's Vidya Mandir, Elamakkara	2010	88%
Xth	Bhavan's Vidya Mandir, Elamakkara	2008	92%

Programming Languages C,C++,VHDL,Verilog, iverilog, python, Java.

Softwares :Matlab, Iabview, modelsim, altera, Xilinx, Magic.

Achievements:

- Awarded “Best Young Researcher Award 2021” by IJMTST registered under MSME for the research contributions in September 2021
- Awarded “Outstanding Research Paper Award” by Novel Research Academy for the paper titled ‘ Adaptive Cuckoo Search based optimal bilateral filtering for denoising of satellite images” published in ISA Transactions
- Acted as the Program Committee Member and Reviewer in the International Conference on Cyber Technologies and Emerging Sciences organized by Graaphic Era Hill University, Uttarakhand
- Mentor for two teams for Yuva Innovators Challenge 2021, A National level competition organized by Yuva IncubatEd powered by K.I.T.E.S Education
- Mentored 30 students from ECE for ICT-Honeywell Training
- Mentored students for Abigyan 202 hackathon by SRM Institute of Science and Technology
- Reviewer in IET Image Processing Journal
- Reviewer in Journal of Selected Topics in Applied Earth Observations and Remote Sensing
- Best outgoing student award from Amrita School of Engineering, Coimbatore.

- Awarded academic excellence for all semester Mtech Exam conducted by Amrita VishwaVidyapeetham.
- Won prizes in violin(western) at school .
- Won prizes in Classical music and dance at school level.
- Serving as the technical committee member of International Conference on Computer Vision and Robotics.
- Serving as the technical committee member of International Conference on Signal Processing and Communication

Workshops and seminars attended:

- Workshop on 'Wireless Communication(WiCoM)' conducted by Toc H Institute Of Science and Technology
- Workshop on 'Green Electronics' conducted by Amrita Vishwa Vidyapeetham on 12th and 13th December 2014.
- One day seminar on 'Emerging perspectives of Nanoelectronics' on 19th September 2014 at Amrita School of Engineering.
- One day workshop on 'FPGA in Networking' conducted by Amrita Vishwa Vidyapeetham on 18th April 2015.

Proposals

1. Submitted a proposal titled ' AI based user centric ticketing system' to SERB- Core Research Grant: Exponential Technologies
2. Submitted a proposal titled ' Empowering Non-technical women workforce on digital Transaction Techniques' to Tamil Nadu State Council for Science and Technology scheme Dissemination of Innovative Technologies(DIT)

Course Completed

1. Completed a course "Scilab" organized by Sri Krishna College of Technology with course material provided by Spoken Tutorial Project, IIT Bombay from 26.07.2021- 30.07.2021
2. Completed a course on " The Fundamentals of Digital Marketing" under Google Digital Garage on 20.12.21
3. Completed a course on " Successful Negotiation : Essential Strategies and Skills" issued by Courseera
4. Completed a course on " Introductory Human Physiology" issued by Courseera
5. Completed a course on "The Data Scientist's Toolbox" issued by Courseera
6. Completed a course on "Positive Psychology: Martin E.P. Seligman's Visionary Science" issued by coursera
7. Completed a course on "Object Oriented Programming in Java" in Courseera
8. Completed a course on "Introduction to Internet of Things and Embedded System" in Courseera
9. Completed a course on "Understanding research methods" in Courseera

Projects & Paper Presentations:

Paper name:

- A journal titled “A hybrid test data compression technique for VLSI circuits” published in Mathematical statistician and engineering applications
- Published a conference titled “Simulation Environment for the I9 Vanet Platform in IEEE explore
- Published a journal titled “Dynamic Local Binary Pattern Based Feature Extraction for Satellite Image Change Detection”
- Published a conference titled “AI-Powered Disaster Data Calculation & SMS Alerting: An Overview” in IEEE Xplore
- Published a conference titled “Hand Gesture Recognition for Blind Using Machine Learning Algorithms” in IEEE Xplore
- Published a conference titled “Smart Aquarium and Water Quality Monitoring using IoT” in IEEE xplore
- Published a conference titled “LoRa Protocol based Accident Alert System for Hilly Terrains” in IEEE xplore
- Published a journal titled “Content-Based Image Recovery System with the Aid of Median Binary Design Pattern” in Traitement du Signal journal
- Published a journal titled “A Multiple Regression Analysis Approach to Understand the Critical Factors Impacting the Application of Machine Learning Techniques for Effective Productivity” in IEEE xplore
- Published a conference titled “Disease prediction in humans using Machine Learning Techniques-A survey” in IEEE xplore
- Published a conference titled “Fake Currency Note Recognition using Extreme Learning Machine in IEEE xplore
- Published a conference titled “Novel Method for Recognizing Sign Language using Regularized Extreme Learning Machine” in IEEE xplore
- A journal titled “A self-adaptable Manta ray optimized Gabor filter for satellite image enhancement” published in Earth Science Informatics
- A journal titled “Strategic management accounting practices between developed and emerging economies using Machine Learning” published in Journal of Pharmaceutical Negative Results
- A journal titled “designing AI based secured framework to improvise the data security of confidential academic records” published in Intelligent systems and applications in engineering
- A journal titled “Decision-making methodology in the outbreak of vectors transmitting tropical diseases, using heterogeneous geospatial information” published in Journal of Pharmaceutical Negative Results
- A conference paper titled An intrusion detection approach using Hierarchical deep learning based butterfly optimization published in IEEE Xplore
- A journal titled ‘Development of Symmetrical Fault detection during power swing based on entropy’ published in Journal of Electrical Engineering and Technology
- A journal on “Federated transfer learning for authentication and privacy preservation using novel supportive twin delayed DDPG (S-TD3) algorithm for IIoT published in Sensors

- A conference paper titled ‘Guided filtering based real time flood area identification on bitemporal satellite images’ published in IEEE Xplore
- A conference paper titled ‘Dual Band Ball Antenna for C-Band and L-Band Applications’ presented at 2021 Second International Conference on Electronics and Sustainable Communication Systems (ICESC)
- A journal titled “A Novel Deep learning framework for identification of COVID 19” published in Turkish Online Journal of Qualitative Inquiry
- A journal titled ‘Deep feature extraction and feature fusion for bi-temporal satellite image classification’ published in CMC-Computers, Materials and Continua (Impact factor: 4.89).
- A journal titled ‘Blockchain and IOT integrated smart city architecture’ published in Turkish Journal of Computer and Mathematics Education
- A journal titled ‘Supervision calamity of public opinion actions based on field programmable gate array and machine learning’ published in International Journal of Nonlinear Analysis and Applications
- A journal titled “Detection and grading of diabetic retinopathy in retinal images using deep intelligent systems: A comprehensive review” published in CMC-Computers, Materials and Continua
- A journal titled ‘Image Processing Techniques for analysis of satellite images for historical maps classification-An Overview’ published in Applied Sciences (Impact factor 2.217)
- A conference paper titled “Smart Trolley using IOT” presented at the International Conference on Advanced Computing & Communication Systems ICACCS 2021 held at Sri Eshwar College of Engineering, Coimbatore on 19th and 20th March 2021
- A conference paper titled “GSM and GPS based accident detection and messaging system ” presented at the International Conference on Advanced Computing & Communication Systems ICACCS 2021 held at Sri Eshwar College of Engineering, Coimbatore on 19th and 20th March 2021
- A conference paper titled ‘IoT Based Smart Water Leak Detection System for a Sustainable Future’ presented at sixth international conference on Wireless Communication, Signal Processing, and Networking (Wispnet 2021) held during 25-27 March 2021.
- A journal paper titled ‘Adaptive Cuckoo Search based optimal bilateral filtering for denoising of satellite images’ published in ISA Transaction(Impact Factor 4.343)
- A journal paper titled ‘Change detection techniques for remote sensing applications: a survey’ published in Earth Science Informatics(Impact Factor 1.628).
- A journal paper titled ‘Bat algorithm based non-linear contrast stretching for satellite image enhancement’ published in Geosciences.
- A paper titled ‘Satellite image enhancement using hybrid denoising method for fusion application’ has been accepted and presented at the 2nd International Conference on Computing Analytics and Networking (ICCAN 2019) to be held in Bhubaneshwar on 14^h December 2019.
- A paper titled ‘Lifting Wavelet and Discrete Cosine Transform based super-resolution for satellite image fusion’ has been accepted and presented at the International Conference on Computational Methods and Data Engineering (ICMDE 2020) to be held in Delhi on 30th January 2020.
- Presented a paper titled ‘Machine Learning based Image Processing Techniques for Satellite Image Analysis — A Survey’ at IEEE International Conference on Machine Learning, Big Data , Cloud and Parallel Computing : Trends ,Prospective

and Prospect held at Noida.

- Paper titled 'Edge preserved satellite image denoising using Median and Bilateral filtering' presented at the International Conference on Recent Trends in Image Processing and Pattern Recognition (RTIP2R 2018) held at Solapur, Maharashtra.
- Presented a paper titled '2D Discrete Cosine Transform for fusion of multitemporal satellite images' at IEEE International Conference on Intelligent Computing and Control System (ICICCS 2018) held at Madurai.
- A book chapter titled 'Artificial Bee Colony optimized contrast enhancement for satellite image fusion' published in the book titled "Artificial Intelligence Techniques for satellite image analysis" in RDIP series of SPRINGER.
- A journal paper titled 'Burrows Wheeler Transform based test vector compression for digital circuits' published in Indian Journal of Science and Technology.
- Presented a paper titled 'Multistage test data compression technique for VLSI circuits' at International Conference on Advanced Communication Control and Computing Technologies ICACCCT 2016 held at Ramanathapuram, Tamil Nadu.
- Presented a seminar on Voice input Voice output communication aid for persons with severe speech impairment at Toc H Institute Of Science And Technology.
VIVOCA recognizes the disordered speech of the user and using a user interface provides feedback to rectify the deviations.
- Presented a seminar on Impact of parameter variations on the performance of tunnel FET at Amrita School of Engg
- A book chapter titled "A secured data sharing protocol for minimization of risk in cloud computing and big data in AI application" published in the book Artificial intelligence for smart healthcare, Springer International Publishing.
- A paper titled "Challenges Faced in Countering Cyber Crimes in Political Science and Management: a Critical Study"

Implant Training:

- One week Internship in Kerala State Electronics Board (KELTRON), Aroor, Kerala from 13th to 20th May 2013.
- One week internship in OEN India Limited, Mulanthuruthy, Kerala from 6th to 11th May 2013.

Main project:

- Satellite image change detection at Karunya Institute of Technology and Sciences
Multitemporal satellite images of a certain location are acquired and change detected with the help of image fusion and segmentation using artificial neural networks.
- Burrows Wheeler Transform based test vector compression at Amrita School of Engineering
To compress the test patterns obtained using block matching algorithm and Burrows wheeler Transform on high frequency data.
- Implementing UART in VHDL done at ISRO, Trivandrum.

Universal Asynchronous Receiver Transmitter is a kind of serial communication

protocol which is generally used for better transmission of serial data. UART was implemented with programmable data format and baud rates with testbench for verification.

Minor project:

- Project on weather monitoring system using LABVIEW simulation software.
Temperature, pressure and humidity sensors were used to detect the parameters at the surface level.

Books

1. Numerical Modeling of Junctionless FET using Finite Difference method – Lambert publications (ISBN: 978-620-3-85371-1)-1
2. Artificial Intelligence Techniques – Lambert publications (ISBN: 978-620-4-74083-6)
3. Satellite Image Analysis using machine learning- Lambert publications(978-620-4-20014-9)
4. Published a book titled Cloud Computing

Patent

1. An Australian patent titled “Secure long range device to communication method for IoT devices using low power wide area network(LPWAN)” published in May2021
2. An Indian patent titled “A system and method for mining traffic patterns of IoT devices in Edge Networks (Appli No: 202141031766)” published in July 2021
3. A patent on ‘A neuromorphic system for integrating a modular piece of an assembly’ (Application Number : 202121019690) published
4. A patent on A System For Regulated Distributed Deep Learning In Cloud And Smart Mobile Devices filed
5. An Indian patent on “ X shaped multi-bond monopole antenna with dual notching published

Events Organized:

1. Organized an event on “Full Stack Web application development”on 29.05.2021 . Mr. Abibalaji Veerakumar(2016 ECE Alumnus), Senior Software Engineer, Virtuous Transactional Analytics Pvt Ltd, Bangalore was the resource person.
2. Organized a school student event on 29.06.21 " Young Talent Hunt" Organized a webinar on "Interactive simulation based learning in Antenna Design" on 11.06.2021
3. Organized a webinar on " Stress and Anxiety Management - During Covid 19" on 16.06.21
4. Organized a webinar on "Recent Trends & Challenges in CMOS VLSI design" on 24.07.21
5. Organized a webinar on “ Signals and systems: an insight into recent applications” on 04.12.21

Resource Person: Served as the Resource Speaker in IETE sponsored FDP on AI and Deep learning approach for image processing and its applications on 20/06/2023

FDP's/STTPs Attended

1. Attended an International FDP on “Research excellence and academic development” from 01.09.21- 08.09.2021
2. Attended an FDP on Societal Applications of AI, Blockchain and IoT” from 01.09.21- 05.09.2021
3. Attended an FDP on Societal Applications of AI, Blockchain and IoT” from 01.09.21- 05.09.2021
4. Attended an FDP on Quantum Computing by IIIT Dharwad from 19.07.2021 to 23.07.2021
5. Attended an FDP on Effective Business and Research Decision by Rourkee Institute of Technology from 26.07.2021 to 30.07.2021
6. Attended FDP on perceptions of research, paper publication and overview of patent filing
7. Attended an FDP on “ FDP on Multitechnology” from 28.06.2021 to 03.07.2021
8. Attended an FDP on “FDP on Research methodology and IPR” from 07.07.21 to 11.07.2021
9. Attended an FDP on “ FDP on Enriching Research Methodologies, Effective Journal Publications and Proposal drafting” from 26.07.2021 to 28.07.2021
10. Attended an FDP on “FDP on Advance Concepts on Networking and Linux” from 31.05.2021 to 05.06.2021
11. Attended an FDP on “FDP on App Development with Android” from 07.06.2021 to 12.06.2021
12. Attended an FDP on “FDP on Advances in Photonics and Fiber optics technologies” from 21.06.2021 to 22.06.2021
13. Attended an FDP on “FDP on Cloud Computing” conducted by IIT Kanpur from 10.05.2021 to 15.05.2021
14. Attended an FDP on Linux from 17.05.2021 to 22.05.2021
15. Attended an FDP on Python by IIT Kanpur from 01.03.2021 to 06.03.2021
16. Attended an FDP on Cyber Security from 22.03.2021 to 28.03.2021
17. Attended an STTP on Emerging Trends and Research Challenges in Next Generation Wireless Networks from 29.03.2021 to 03.04.2021 conducted by Kongunadu College of Engineering and Technology
18. Attended an FDP on “Recent advances in Data Science , Data analytics and Cyber Security from 01-05 March 2023 conducted by Shri Vishnu Engg college for women
19. Attended an FDP on “Deep Learning Application development , tools and research” from 28.02.2023-04.03.2023 organized by VIIT, Pune
20. Attended an FDP on “Machine learning and its real time applications” from 06.03.2023-10.03.2023 organized by Sri Manakula Vinayagar Engg college
21. Attended an FDP on “Emerging Trends in VLSI Design and Practical approach” from 01.08.2022-06.08.2022 organized by Aditya college of Engg

Experience:

Name of organization	Designation	Nature of work	Period
Nehru College of Engineering and Research Centre, Pampady	Assistant Professor	Teaching	Sept 2024-present
Sri Eshwar College of Engineering, Coimbatore	Assistant Professor	Teaching	Jun 2022- June 2024
Sri Krishna College of Technology, Coimbatore	Assistant Professor	Teaching	Dec 2020- Jun 2022
Tata Elxsi, Trivandrum	Senior Engineer	Testing (Industry)	Nov 2016-Nov 2017
Karunya Institute of Technology and Sciences, Coimbatore	Research Scholar	Research	Dec 2017- Dec 2020

Extra-circular activities:

- Participated in violin(western) competitions at school
- Participated in dance competitions at school level.
- Worked as a member in organizing ‘ADVAY’ college fest at Toc H Institute Of Science AndTechnology.
- Participated in Maths and Cyber Olympiads at school level.

Hobbies:

- Enjoys playing violin, dancing and singing

Personal Details:

Name: Anju Asokan

Gender: Female

Date Of birth: 27th May 1992

Languages known: English, Malayalam, Hindi, Tamil.