Dr. Upendra Kumar Acharya
(Ph.D. in Electronics and Communication Engineering)

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CAREER OBJECTIVE:

To utilize my technical skill and knowledge in order to explore me in the competitive world and to get a well established position in the technical industry by taking my duty as a challenge.

QUALIFICATION:

Name of the Exam.	Board / University	Percentage / CGPA
Ph.D. (Electronics and Communication Engineering) Area of Research- **Image Processing**	National Institute of Technology (N.I.T), Delhi	7.71 (CGPA)
M. Tech (Electronics and Communication Engineering)	Biju Patnaik University of Technology (B.P.U.T), Odisha	8.56 (CGPA)
B. Tech (Electronics and Tele Communication)	Biju Patnaik University of Technology (B.P.U.T), Odisha	8.01 (CGPA)
12th (Science)	Council of Higher Secondary Education, Odisha	77.8
10th	Board of Secondary Education, Odisha	83.06

PROFESSIONAL EXPERIENCE:

- **Assistant Professor**
  (Galgotias College of Engineering and Technology, Greater Noida)
  ***From 1st August 2017 to till now*. (4 year 9 month)**

- **Associate Data Analyst**
  (**Global Logic Technologies Limited onsite client Google India**)
  From October 2016 to july 2017, (10 month)

- **Lecturer**
  (**C.V Raman College of Engineering, Bhubaneswar, ODISHA**)
  From January 2012 to July 2016, (4 years and 6 months)

OUTCOME OF THE RESEARCH

1. **U. K. Acharya**, and S. Kumar, Particle swarm optimized texture based histogram equalization (PSOTHE) for MRI brain image enhancement. *Optik* (I.F=2.443), vol. 224, p.165760, 2020. (**SCIE**) https://doi.org/10.1016/j.ijleo.2020.165760

2. **U. K. Acharya**, and S. Kumar, Genetic Algorithm based adaptive histogram equalization (GAAHE) technique for medical image enhancement. *Optik* (I.F=2.443), vol. 230, p.166273, 2021. **(SCIE)** https://doi.org/10.1016/j.ijleo.2021.166273
3. **U. K. Acharya** and S. Kumar, "Directed searching optimized mean-exposure based sub-image histogram equalization for grayscale image enhancement," *Multimedia Tools and Applications* (I.F=2.757*)*, pp. 1-21, 2021. **(SCIE)** https://doi.org/10.1007/s11042-021-10855-7
4. **U. K. Acharya** and S. Kumar, "Swarm intelligence and Adaptive Gamma correction (SIAGC) based retinal image enhancement technique for early detection of Diabetic Retinopathy," *optik*, 2021.**(SCIE)** https://doi.org/10.1016/j.ijleo.2021.167904
5. **U. K. Acharya** and S. Kumar, "Image sub-division and quadruple clipped adaptive histogram equalization (ISQCAHE) for low exposure image enhancement," *Multidimensional Systems and Signal Processing*, 2022. (under review) **(SCI,** I.F= 2.03, under review) .
6. **U. K. Acharya** and S. Kumar, " Directed searching optimized texture based adaptive gamma correction technique (DSOTAGC) for medical image enhancement," *Multimedia Tools and Applications*, (I.F=2.757*)*, 2022. **(SCI,** under review) .
7. S. Kumar, S. Singh, P. Agarwal, **U. K. Acharya**, P. K. Sethy, and C. Pandey, "Speech quality evaluation for different pitch detection algorithms in LPC speech analysis–synthesis system," *International Journal of Speech Technology*, pp. 1-7, 2020. **(Scopus journal)** https://doi.org/10.1007/s10772-020-09765-0
8. S. KUMAR, P. A.Tiwari, P. Agarwal, **U. K. Acharya**, "Synthesized speech quality measurement for an Improved Fundamental Frequency (Pitch) Detection Algorithm," *International Journal of Speech Technology*, pp. 1-7, 2022. **(Scopus journal,** under review**)**
9. A. S. Mishra, **U. K. Acharya**, A. R. Modi, and A. Srivastava1, "Brain Tumor Image Segmentation using Model Average Ensembling of 3D-CNN and U-Net," *International Journal of Systems Assurance Engineering and Management (IJSA)*, Springer, 2022 **(Scopus journal,** under review**)**
10. A. Yadav, A. Yadav, A. Singh and **U. K. Acharya**, "Vehicle Detection System using modified Blob Detection Technique," *Journal of current research in engineering and science*, vol.4(1), 2021.
11. U. K. **Acharya**, S. Kumar, "Image enhancement using exposure and standard deviation-based sub-image histogram equalization for Night-time Images," *In Proceedings of International Conference on Artificial Intelligence and Applications*, Springer, Singapore, pp. 607-615, 2020. https://doi.org/10.1007/978-981-15-4992-2_57 **(Scopus)**
12. **U. K. Acharya**, and S. Kumar, "Particle swarm optimization exponential constriction factor (PSO-ECF) based channel equalization," In *2019 6th International Conference on Computing for Sustainable Global Development (INDIACom)*, IEEE, pp. 94-97, 2019. **(Scopus).**
13. K. Kumar, S. Kumar, and **U. K. Acharya**, "Implementation and performance measurement of Q-Varying and r-Varying IIR Notch Filter For Bio-medical Application," *1st international conference on energy, materials sciences and mechanical engineering (EMSME) 2020.* **(Scopus)** https://link.springer.com/chapter/10.1007/978-981-16-1476-7_41
14. M. Shoaib,M. Mohsin, I. K. Ansari, H. Maddhesiya, and **U. K. Acharya** Single image haze removal using variable fog-weight. In *Journal of Physics: Conference Series* (Vol. 1706, No. 1, p. 012091). IOP Publishing, Dec. 2020. **(Scopus).**
15. J. Krayla, **U. K. Acharya**, and S. Kumar, "Performance analysis of image enhancement techniques for MRI Brain images," *international conference on emerging electronics and automation,Springer, 2021.* **(Scopus)**
16. P. Katiyar, S. Kumar, **U. K. Acharya**, and P. Agarwal, " Study and implementation of efficient pseudorandom number generator," *International Conference On Intelligent Systems and Smart Infrastructure, (ICISSI)*, 2022. **(Scopus)**
17. J. Krayla, S. Kumar, **U. K. Acharya**, A. K. Sahani, P. Kumar and A. Sengupta, " Comparative analysis of fuzzy logic based image enhancement techniques for MRI brain images,"*2nd International conference on smart data intelligence (ICSMDI 2022)*, 2022. **(Scopus)**
18. A. Khan, **U. K. Acharya**, A. Rai, A. Pratap, A. S. Mishra and S. Kumar, " Performance Analysis of different classifiers for the applicatioon of human activity identification," *International Conference On Intelligent Systems and Smart Infrastructure, (ICISSI)*, 2022. **(Scopus,** under review**)**

SKILLS

- MATLAB
- Optimization Techniques (Swarm Intelligence, Genetic Algorithm, Directed Searching Optimization technique)
- Orcad
- VERILOG

- Ms Excel/Word/Power Point

JOB RESPONSIBILITIES

1. **Job Responsibilities in Galgotias College of Engineering and Technology, Greater Noida**
   - Lab Development In-charge.
   - Class Coordinator
   - Project guide for B.Tech students.
   - Trained Engineering (B. Tech) Students.
   - Active member during **NBA** Accreditation.
   - Coordinator for **Course Outcome** for different subject.
   - Mark verification committee
   - Departmental Sports Coordinator

FDP/Workshop Attended

- Participated **AICTE recognized ICT** based short term course **(5 days)** on **Optical Fiber: Potencial and Application.**
- Participated **AICTE recognized ICT** based short term course **(5 days)** on **Emerging trends in Antenna Design and Communication Technologies**
- Participated two days **workshop** on **fundamental of wireless mobile Communication.**
- Participated **AICTE recognized ICT** based short term course **(5 days)** on **Soft Computing Techniques using MATLAB.**
- Participated **AICTE recognized ICT** based short term course **(5 days)** on **MATLAB and Lab view and its Hardware Interface.**
- Participated **AICTE recognized ICT** based short term course **(5 days)** on **MATLAB.**
- Participated **AICTE recognized ICT** based short term course **(5 days)** on **Scilab.**
- Participated **AICTE recognized ICT** based short term course **(5 days)** on **Advances in OFC.**

2. **Job Responsibilities in Global Logic Technologies limited onsite client Google**

Extract Data like image, bounding **image, audio, video** from Database and categorize them with proper quality with respect to different entity or criteria and again send them to database which are basically found in different browser after searching any relevant data in search engine.

3. **Job Responsibilities in C.V. Raman College of Engineering, Bhubaneswar**
   - **Nodal officer** for BSNL Training.
   - **Project Coordinator** for 4th year B. Tech Students.
   - Project guide for B. Tech Students.
   - Departmental active member during **NBA and NAAC** inspection.
   - Departmental Coordinator for **IIPC**(Institute Industry Partnership Council)
   - Faculty Advisor for **CVTRONICS Society.**

FDP /FTP/Conference Attended (2012-2016)

- Participated in Training of trainers and Assessors (**TOTA**) Course approved by **DG Shipping**.
- Participated in a workshop for **MATLAB** organized by **MATHWORK.**
- Prepared Electronics lab Manual for Marine Students.2015-16.
- Participated AICTE recognized **ICT** based short term course on Wireless Networks.
- Participated AICTE recognized **ICT** based short term course on 2G Vs 3G.
- Member of the organizing committee of National Conference **"VSAT13"(VLSI Signal Processing and Trends in Telecommunication Engineering)**
- Member of the organizing committee of National Conference **"VSATT 14".**
- Member of the organizing committee of FDP **"STVDES15". (Small Topics on VLSI Design and Embedded Systems).**
- Member of the organizing committee of IEEEConference**"MAMI15".(Man and Machine Interfacing)**
- Participated a 2days FTP on **ARM** Cortex M3 architecture with hands on and project.
- Attended a 3days FDP on **Recent trends on VLSI Design and Embedded system** (RTVDES) sponsored by BPUT, ODISHA.

THESIS DETAILS:

- **Ph. D. Thesis**

Title:- Image enhancement techniques for low exposure images.

In the technological world, images are being captured by different camera sensors for different applications, but manipulation of these images without any information loss is an arduous task. If the images are of low contrast, complex and contain a lot of uncertainties then understanding of such images and observing the region of interest is very difficult. Because of poor quality image, the scientific evaluation and diagnosis becomes complicated in medical imaging. So image enhancement techniques are used for the improvement of the interpretability of information contents with better quality image. But designing an appropriate image enhancement technique is very difficult for a particular application. Some of the existing methods resulted more information loss, over enhanced image, no control on enhancement rate, not able to preserve the brightness and produce artifacts in the enhanced image. Few techniques are not adaptive and results the enhanced image by losing the natural appearance by affecting the structure, feature similarity. Such techniques are not suitable for further processing the enhanced image for different applications. So, different algorithms have been preoposed in this thesis to enhance the image quality along with eliminating the above discussed issues. The outcome of this research is presented in publications.

- **M. Tech Thesis**

Title:- Performance Analysis of Soft-Computing Approaches for Channel Equalization

- **B. Tech Project (HARDWARE)**

Title:- Microcontroller based SONAR (Sound Navigation and Ranging) for obstacle detection, ranging, and avoidance.

PERSONALITY TRAITS:

- Punctual & Regular.
- Interest and Ability to learn new things & sincere in approach.
- Learning from my mistakes & rectifying them.

PERSONAL INFORMATION:

Father's Name	-- Narayan Acharya
Date of Birth	-- 10th July 1989
Gender	-- Male.
Marital Status	-- Single
Nationality	-- Indian
Languages Known	-- English, Hindi, Odia
Passport Number	-- N9901096

DECLARATION:

I hereby declare that the above information is true to best of my knowledge and I take responsibility of the correctness of the information.

Date: 05/05/22
Place: Greater Noida, India **Dr. Upendra Kumar Acharya**