

PROFILE

Name	Dr. A Chrispin Jiji
Position & Affiliation	Associate Professor, Department of ECE
Areas of Interest	Image Processing, Artificial Intelligence, ML/DL. IOT, VLSI Design
Email	chrispin.ece@cambridge.edu.in
LinkedIn ID	https://www.linkedin.com/in/dr-chrispin-jiji-0845ab111/
Google Scholar ID	https://scholar.google.com/citations?user=ZfsijxIAAAAJ&hl=en
Orchid ID	0000-0001-5267-788x
Vidwan ID	347637
Scopus ID	57202987275
Professional Webpage (if any)	https://faculty.cambridge.edu.in/dr-a-chrispin-jiji/

Educational Qualifications:

Ph.D	VTU	India	2020
ME	Karunya University	India	2006
BE	Manonmanium Sundaranar University	India	2004

Areas of Research:

Image Processing, Artificial Intelligence, Machine Learning/Deep Learning, IOT, VLSI Design

Brief Profile: (write about yourself)

Dr. A Chrispin Jiji received her B.E degree in Electronics and Communication Engineering from The Rajaas Engineering College, Tamilnadu, M.E in Applied Electronics from Karunya Institute of Technology, Karunya University, Tamilnadu and Ph.D. from Visvesvaraya Technological University, Karnataka. She is currently working as an Associate Professor in Department of Electronics and Communication Engineering, Cambridge Institute of Technology, Bangalore.

She has around 18.6 years of experience in teaching and 9 years of research experience. She has received AICTE sponsored ATAL FDP 2024 grant entitled “Research Problems, Recent Trends and Future Perspectives of Artificial Intelligence in Image Processing-Tools, Techniques and applications: An industry Perspective” worth of Rs.350000/-. She is actively working on ongoing VGST-RGSF 2023 funded project entitled “Bite Force Recording Device for Clinical Evaluation of Dental Problems” worth of Rs.300000/- for a period of two years, VTU sponsored project entitles “Smart Assistive device for Quadriplegic Patient” worth of Rs.5000/- and KSCST sponsored project entitles “RISC-V Enabled Automated Oscillometric Pressure Monitoring Device For Supine Pressor Test” worth of Rs.5000/-.

She has 2 granted patent and also published 8 Patents to her credit. She has published 50 papers in reputed

Journals and conferences. Out of which 4 papers in SCI indexed Q2 journal, 16 papers in Scopus indexed journals, 4 papers in WOS etc. She has published 5 Books entitled Digital Image processing: Practical Implementation with MATLAB, Electronic Circuits Analysis & its Simulation with PSPICE, Electronic Devices and Instrumentation Laboratory Practice, Analog Integrated Circuits with PSPICE and Analog Circuits and its Simulation in PSPICE. She has delivered special lecturers in National and International conferences. She has received Women Researcher Award 2021 and Young Achiever Award 2020. She has reviewed many Scopus indexed articles. She has organized events like Webinars, National conferences, quiz and also session chair for paper presentation event in National Conference. She has professional IEEE Membership, IEEE Photonic Society membership, and InSc lifetime professional membership. Her research areas include Optical Imaging, Underwater Image Processing, Image Restoration, Image Enhancement and Tone Mapping. Guided many B.E and M.E projects and currently guiding two Ph.D scholars.

Awards/Achievements/Others:

- [1]. Women Researcher Award from International Scientist Awards 2021 on Engineering, Science and Medicine
- [2]. Young Achiever Award 2020 from Institute of Scholars (InSc)
- [3]. Received NPTEL certificate on Computer vision and image processing Fundamentals and applications, 2021
- [4]. Guest Lecture on “Fundamentals of Image Processing”, National University Mayor de San Marcos, Lima Peru, 2021
- [5]. Guest Lecture on “Artificial Intelligence for Image Processing”, The Oxford College of Engineering, 2021
- [6]. Hands on Image Processing Algorithms, The Oxford College of Engineering, 2021
- [7]. Expert Talk on “Optical Imaging Extended Depth of Field Platform”, St. Xaviers Catholic College of Engineering, Tamilnadu, 2020
- [8]. Expert Talk on “Optical Imaging in Underwater Images”, IEEE Photonic Society Bangalore Chapter, 2020

Courses Taught: Digital Image Processing, Advances in Image Processing, Analog Circuits, Electronic Devices, Advances in VLSI Design, VLSI Design, Verilog HDL, VLSI Testing, Analog Electronics, Principles of Communication Systems, Wireless and Cellular Communication, Satellite Communication, Basic Electronics, Digital Switching System, DSP algorithm & Architecture, Antennas & Wave Propagation, High Performance Computer Network, Computer Communication Network, Wireless and Mobile network

Publications/Patents:

Publications	[1]. Chrispin Jiji, Maraia Seraphine Sujitha, Annie Bessant, Indumathi G “REOUN: Restoration and Enhancement of Optical Imaging Underwater based on Non-Local Prior”,
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Journal of Optics, **Springer Publisher, 2024**

<https://doi.org/10.1007/s12596-024-02097-1> **ESCI, Scopus**

[2]. Chrispin Jiji, “Optical Lens modeling and Optimization with Machine Learning algorithm for Underwater Imaging”, Journal of Optics, **Publisher: Springer, 2023**

<https://doi.org/10.1007/s12596-023-01549-4> **ESCI, Scopus**

[3]. Chrispin Jiji, “Extended Depth of Focus Imaging using Optics and Image Processing”, International Journal of Information Technology, **Publisher: Springer, 2023**

<https://doi.org/10.1007/s41870-023-01586-z> **Scopus**

[4]. Chrispin Jiji, Annie, Martin, Aamir, Hatira & Alponse, “A new model to detect Covid-19 patients based on convolution neural network via l1 regularization”, Applied Mathematics in Science and Engineering, **Publisher: Taylor & Francis, 2023 (Q2 Journal)**

<https://doi.org/10.1080/27690911.2023.2220872> **SCI, Scopus, WOS**

[5]. Chrispin Jiji, Vivek Maik, “ASAD: Adaptive Sparse Augmented Lagrangian Deblurring of Underwater Images with Optical Prior”, Imaging Science Journal, **Publisher: Taylor & Francis, 2023 (Q2 Journal)**

<https://doi.org/10.1080/13682199.2023.2173546> **SCI, Scopus, WOS**

[6]. Chrispin Jiji, Vivek Maik, “IOT based Automatic Forest Fire Detection based on Machine Learning Approach”, Annals of Forest Research, **2022**

<https://www.e-afr.org/article/view/1792.html> **Scopus**

[7]. Chrispin Jiji, Vivek Maik, & Vijay Kumar “A Novel technique for enhancing underwater visibility using Non-Local Stretch Directional Gradient”, Journal of Physics: Conference Series, IOP Publishing, **2022**

<https://doi.org/10.1088/1742-6596/2335/1/012024> **Scopus**

[8]. Chrispin Jiji, & Nagaraj R, “Hybrid Technique for improving Underwater image”, 3C Technologia, **2021**

<https://doi.org/10.17993/3ctecno.2021.specialissue8.645-665> **ESCI, Scopus, WOS**

[9]. Chrispin Jiji, “Novel Method to Reconstruct an Image using Hybrid Decomposition”, Design Engineering, **2021**

<https://www.scopus.com/sourceid/28687> **Scopus**

[10]. Chrispin Jiji, & Nagaraj R, “Enhancing Underwater images using Piecewise Linear

Smoothing Gradient Guided Filter”, 3C Technologia, **2020**

<https://ojs.3ciencias.com/index.php/3c-tecnologia/article/view/951> **IESCI, Scopus, WOS**

[11]. Chrispin Jiji, & Nagaraj R, “A Novel imaging system for Underwater Haze Enhancement”, International Journal of Information Technology, Publisher: **Springer, 2019**

<https://doi.org/10.1007/s41870-019-00312-y> **Scopus**

[12]. Chrispin Jiji, & Nagaraj R, “Hybrid Technique for Enhancing Underwater Image in blurry conditions”, Advances in Science, Technology and Engg Systems Journal, **2019**

<https://doi.org/10.25046/aj040243> **Scopus**

[13]. Chrispin Jiji, & Nagaraj R, “An Underwater Image Enhancement via Wavelet domain Gradient Guided Filter”, International Journal of Engg and Technology, **2018**

<https://doi.org/10.14419/ijet.v7i4.38.27614> **Scopus**

[14]. Chrispin Jiji, & Nagaraj R, “A Novel Technique for Enhancing Color of Undersea Deblurred Imagery”, Advances in Science, Technology and Engg Systems Journal, **2018**

<https://doi.org/10.25046/aj030610> **Scopus**

[15]. Vivek Maik, Stella Daniel & Chrispin Jiji, “A Novel Imaging System for Removal of Underwater Distortion using Code V”, IEIE Transactions on Smart Processing & Computing, **2017**

<https://doi.org/10.5573/IEIESPC.2017.6.3.141> **Scopus**

[16]. Chrispin Jiji, & Nagaraj R, “Enhancement of Underwater Deblurred Images using Gradient Guided Filter”, 3rd IEEE ICR EICT, **2018 Scopus**

[17]. Chrispin Jiji, & Vivek M, “Underwater Turbidity Removal through Ill-posed Optimization with Sparse Modeling”, IEEE International Conference on PCSIE, **2017 Scopus**

[18]. Chrispin Jiji, “Improving Low Illumination Image Based on Multi-Scale Retinex Via Bilinear Interpolation”, Journal of Emerging Technologies and Innovative Research, **2021**
<https://www.jetir.org/papers/JETIR2109429.pdf> **UGC approved**

[19]. Shivaram Dhikshith M **Chrispin Jiji**, “Artificial intelligence based Covid 19 detection”, Journal of Emerging Technologies & Innovative Research, **2022**

<https://www.jetir.org/papers/JETIR2209238.pdf> **UGC approved**

[20]. **Chrispin Jiji**, et.al “Extraction of Blood Vessels from Retinal Image and its classification”, International Journal of Science & Engg, **2021**

	<p>https://doi.org/10.51397/OAIJSE07.2021.0019 UGC approved</p> <p>[21]. Chrispin Jiji, et.al “Enhancement of Pencil Sketch of Underwater Images”, IJIRCCE, 2021</p> <p>https://doi.org/10.15680/IJIRCCE.2021.0907218</p>
Patents	<p>[1]. Chrispin Jiji, et.al “Foldable Keyboard for Portable devices” 383905-001, 01/08/2023, Indian Patent Granted</p> <p>[2]. Chrispin Jiji, et.al “Automated Solar Panel Cleaning System” 387576-001, 11/01/2024, Indian Patent Granted</p> <p>[3]. Chrispin Jiji, et.al “Smart Home Automation System for Quadriplegic Patients” 202241050128, 09/09/2022, Indian Patent Published</p> <p>[4]. Chrispin Jiji, et.al “Smart temperature and Face mask detection to prevent Covid-19 using Image Processing” 202141052930, 03/12/2021, Indian Patent Published</p> <p>[5]. Chrispin Jiji, et.al “Advanced Image Processing techniques for Early Detection of Eye Disease” 202141042343, 01/10/2021, Indian Patent Published</p> <p>[6]. Chrispin Jiji, et.al “Smart Heart Rate and Blood Oxygen Concentration Monitoring Device for Asthma and Heart Failure Patient” 202141036920, 20/08/2021, Indian Patent Published</p> <p>[7]. Chrispin Jiji, et.al “Modern Device and Method for an Extended Depth of Field Camera” 202141031309, 16/07/2021, Indian Patent Published</p> <p>[8]. Chrispin Jiji, et.al “A New Model for Investigation of marine world using Optical Simulation Extended Depth of Field Platform” 202041041346, 09/10/2020, Indian Patent Published</p> <p>[9]. Chrispin Jiji, “LCD Screen Cleaning Machine” 202041036434, 11/09/2020, Indian Patent Published</p>
Book	<p>[1]. Chrispin Jiji, et.al “Research Methodology & Intellectual Property Rights: Basic and Fundamental concepts” Booksclinic Publishing, 21/08/2024, ISBN: 978-93-5823-800-6</p> <p>[2] Chrispin Jiji, et.al “Digital Image Processing: Practical implementation with MATLAB” Booksclinic Publishing, 29/12/2023, ISBN: 978-93-5823-73-51</p> <p>[3]. Chrispin Jiji, et.al “Electronic Circuits Analysis & its Simulation with PSPICE” Booksclinic Publishing, 30/05/2023, ISBN: 978-93-5535-950-6</p> <p>[4]. Chrispin Jiji, “Electronic Devices and Instrumentation Laboratory Practice” Selfypage Developers Pvt. Ltd, 21/04/2022, ISBN: 978-93-92591-28-0</p> <p>[5]. Chrispin Jiji, “Analog Integrated Circuits with PSPICE” BFC Publication Pvt. Ltd,</p>

23/10/ 2021, ISBN: 978-93-5509-051-5

[6]. **Chrispin Jiji**, “Electronic Devices and Instrumentation Laboratory Practice” BFC Publication Pvt. Ltd, 25/05/2021, ISBN: 978-93-91329-46-4

Research and Consultancy:

[1]. Received AICTE sponsored ATAL FDP 2024 grant entitled “Research Problems, Recent Trends and Future Perspectives of Artificial Intelligence in Image Processing-Tools, Techniques and applications: An industry Perspective” worth of Rs.350000/-.

[2]. Received VGST-RGSF 2023 funded project entitled “Bite Force Recording Device for Clinical Evaluation of Dental Problems” worth of Rs.300000/- for a period of two years

[3]. Received VTU sponsored project 2022 entitles “Smart Assistive device for Quadriplegic Patient” worth of Rs.5000/-

[4]. Received KSCST sponsored project 2023 entitles “RISC-V Enabled Automated Oscillometric Pressure Monitoring Device For Supine Pressor Test” worth of Rs.5000/-.