# **Curriculum Vitae**

Bio:

Dr Sudharsan P did his PhD from IIT Madras in Wireless Communication. After that, he joined Samsung Research Institute Bangalore as Senior Lead Engineer and worked for 1.5 years. After that he has worked in IIIT Allahabad and NIT Tiruchirappalli as



Assistant Professor. He is a recipient of Best Paper award in CICT 2020. He received Best Performing Faculty Award for 2020-2021 in NITT. He received Samsung Citizen Award in 2019 and Best Science Student Award in 2007. He is also recepient of project grant from Shastri Indo Canadian institute and has authored many journals, patent, conferences to his credit. He did B.E from Madras Institute of Technology in ECE and M.Tech Signal Processing from NIT Calicut, India.

- 1. Name: Dr. P. Sudharsan
- 2. Designation: Assistant Professor Gr II
- 3. Office Address: Room No. 319, Silver Jubilee Building, ECE
- 4. Telephone (Direct) (Optional):

Telephone :

Extn (Optional):

Mobile (Optional):

5. Email (Primary): sudharsan at the rate of nitt.edu Email (Secondary) : pras.1989 at the rate

of gmail.com

- 6. Field(s) of Specialization: Wireless Communication
- 7. **Employment Profile**

Job Title	Employer	From	То	
Senior Lead Engineer	Samsung	2/4/2018	30/8/2018	
Assistant Professor	IIIT Allahabad	12/9/2019	15/5/2020	
Assistant Professor	NIT Trichy	11/6/2020	Present	

8. Academic Qualifications (From Highest Degree to High School):

Examination	Board / University	Year	Division/ Grade	Subjects
PhD	IIT Madras	2018	Ι	Wireless Communication
M.Tech	NIT	2012	1 <sup>st</sup> with	Signal Processing

	Calicut		distinction	
B.E.	Anna University	2010	1 <sup>st</sup> with distinction	ECE

#### 9. Academic/Administrative Responsibilities within the University

Position	Faculty/Department/Centre/Institution	From	То
Member	Library Advisory Council, NITT	2020	
Faculty Advisor	Taskforce	2021	
Convener	ECE BTech Project Evaluation	Jan-July	
	Committee	2021 and	
		2022	

## 10. Academic/Administrative Responsibilities outside the University

Position	Institution	From	То

#### 11. Awards, Associateships etc.

Year of Award	Name of the Award	Awarding Organization
2019	Samsung Citizen Award	Samsung R and D
2021	Best Performing Faculty	NITT
2020	Best Paper Award CICT 2020	IIITDM Kancheepuram
2007	Best Science Student Award	Pondicherry Govt

#### 12. Fellowships

Year of Award	Name of the Fellowship	Awarding	From	То
		Organization	(Month/Year)	(Month/Year)

# 13. Details of Academic Work

Course Taught:

UG: Computer Networks and Protocols, Signals and Systems, Speech Processing, Wireless Local Area Network, Semiconductor Devices and Physics, DSP Lab

#### PG:Cognitive Radio

PG projects:

1.Implementation of image enhancement algorithm Retinex on FPGA, Rakesh Kumar, 2020-2021

2. FPGA Implementation of advanced encryption standard, 2020-2021, Rathod Venkatesh

#### 3. VLSI IMPLEMENTATION OF VEHICLE NUMBER PLATE RECOGNITION USING DEEP LEARNING, Arghya P Saikia, 2021-2022

4. Analytical Analysis of SIMO Wireless Communication systems using IRS, Guntha Sai Kumar, 2021-2022

5. Coverage Analysis of HAPS network using

Poisson Point Process for generalized \$\kappa\$-\$\mu\$ shadowed fading, M.V. Vinod, 2021-2022

#### 14. Details of Major R&D Projects

Title of Droiget	Eunding Aganov	Dura	ation	Status
Title of Project	Funding Agency	From	То	Ongoing/ Completed
Analysis of aerial intelligent reflecting surfaces in 6G wireless sytems	Shastri Indo Canadian Institute	Nov 2020	Nov 2022	Ongoing

15. Number of PhDs guided

Name of the PhD Scholar	Title of PhD Thesis	Role(Supervisor/ Co- Supervisor)	Year of Award

16. Participation in Workshops/ Symposia/ Conferences/ Colloquia /Seminars/ Schools etc. (mentioning the role)

Date	Title of	Level of	Role (Participant/	Event Organized by	Venue
(s)	Activity	Event	Speaker/ Chairperson,		
		(International/	Paper presenter, Any		
		National/	other)		
		Local)			

17. Workshops/ Symposia/ Conferences/ Colloquia/Seminars Organized (as Chairman/ Organizing Secretary/ Convenor / Co-Convenor)

Title of Activity	Level of Event (International/ National/ Local)	Date (s)	Role	Venue

18. Invited Talks delivered

1. "Stochastic Geometry Analysis of SG Networks", CIT, March 19,2021

2. "AI/ML in 5G Communication Technology", RAIT Pune, June 21, 2021.

3. "Applications of Machine Learning in 5G/6G Communications", NIT Andhra Pradesh, December 16,2021

4. "Enabling Technologies for 5G and Beyond 5G Wireless Communication Systems", NIT Trichy, April 19, 2021

5. "Artificial Intelligence and 5G Communication Technology", Poornima College of Engineering, Jaipur, April 28,2021

6. "Ethics in Research", FDP, NIT Trichy, June 16, 2021

7. "From 1G to 6G. Where we were, are and heading to ?", Amrita College of Engineering, Chennai, July 12, 2021.

8. "Application of Stochastic Geometry for 5G Network", FDP on Signal Processing for 5G, IIT Goa, August 11, 2021

9. "Scope of Machine Learning in Wireless Communication", MDCWC 2021, Srilanka, Aug 12, 2021

10. "Application of Machine Learning in Wireless", SSN Chennai

19. Membership of Learned Societies

Type of Membership (Ordinary Member/ Honorary Member / Life Member )	Organization	Membership No. with date

## 20. Academic Foreign Visits

Country	Duration of Visit	Programme

## 21. Publications

## (A) Refereed Research Journals:

J1. ``Coverage analysis of intelligent reflecting surface systems in Rayleigh fading", Dahlia, \textbf{Sudharsan}, C.Tellambura, IET Electronic Letters, vol. 58, No.2, Jan 2022, pp.86-88.

J2. ``Interference prediction in partially loaded cellular networks using asymmetric cost functions",\textbf{Sudharsan P},SaiShanker,S.Kalyani,R.K.Ganti,\textbf{IEEE Comm. Letters},June 2018.

J3. ``Error vector magnitude analysis in generalized fading with co-channel interference", \textbf{Sudharsan P},S.Kumar,R.K.Ganti,S.Kalyani,K.Giridhar,\textbf{IEEE Trans. on Comm.},Jan 2018.

J4. ``Coverage probability in downlink Poisson cellular network with  $\lambda pa^{\infty}$  and shadowed fading",\textbf{Sudharsan P},R.K.Ganti,\textbf{IEEE Wireless Comm. Letters},vol.6,no.1,Feb 2017

(B) Conferences/Workshops/Symposia Proceedings

C1. Guntha Sai Kumar, R. Dahlia Devapriya, Sudharsan P, ``Analysis of intelligent reflecting surfaces in SIMO wireless communication systems", ICSDP 2022, VIT Bhopal, June 10-11, 2022.

C2. Sudharsan, R K Ganti, "Power and rate adaptation in the presence of Bernoulli-Gaussian modeled impulsive interference," IEEE CICT 2020, IIITDM Kancheepuram, \textbf{Best Paper Award.}

C3. Sudharsan et al., "Analysis of downlink NOMA in full duplex-half duplex mixed cell PPP system with interference," 2020 IEEE ANTS IIIT Delhi

C4. ``Impact of shadowing in D2D communication", \textbf{Sudharsan P}, R.K.Ganti, \textbf{IEEE Wireless Communication Networking Conference, San Francisco, March 2017.}.

C5. ``An Automated Multi Scale Retinex with Color Restoration for Image Enhancement", \textbf{Sudharsan P}, P. Sankaran, \textbf{National Conference on Communications, 2012, IIT Kharagpur}.

C6. ``A RETINEX based Haze removal method", \textbf{Sudharsan P}, P. Sankaran, \textbf{International Conference on Industrial and Information Systems, August 2012, IIT Madras. }

C7. ``Fusion based multi scale RETINEX with color restoration for image enhancement", \textbf{Sudharsan P}, P. Sankaran, International Conference on Computer Communication and Informatics, 2012.

C8. ``Application of quad tree for low bit rate compression", K. Varma, \textbf{Sudharsan P}, P. Sankaran, 2nd National Conference on Computational Intelligence and Signal Processing, 2012.

	(C) Books & Monographs							
ſ	Author(s)	Title of Book/Monograph	Name of Publishers	Year of Publication	ISSN/ISBN Number			
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# (C) Books & Monographs

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