

Dr. Vikram Mutneja

Associate Professor & Head

Department of Electronics and Communication Engineering

Shaheed Bhagats Singh State University, Ferozepur

Email address: vikram.mutneja@gmail.comGoogle Scholar page: <https://scholar.google.com/citations?hl=en&user=1NcqmRQAAAAJ>

Dr. Vikram Mutneja completed his doctorate from IKG Punjab Technical University, Kapurthala (Punjab, India) in the discipline Electronics Engineering in 2018. He received his Bachelor's degree (B.Tech.) from Guru Nanak Dev University, Amritsar, Punjab (India) with specialization in Electronics & Communication Engineering in year 1998, Master's degree (M.Tech.) from Giani Zail Singh College of Engineering & Technology, Bathinda (Punjab) (India) under I.K. Gujral Punjab Technicial University, Kapurthala (Formerly, Punjab Technical University) with first division in Electronics & Communication Engineering in year 2008. He has industrial experience of around 5 years (1998–2003) in which he worked in diverse fields such as Hardware and Networking Technical Support, Software Development for Web and Embedded Systems. During his teaching experience of around 23 years (2003–2026), he worked mainly in the areas of embedded systems, VLSI and Digital Signal Processing. His current field of research includes areas of image processing for detection and extraction of facial features from still and moving images and GPU computing. Presently he is working as Associate Professor in department of Electronics & Communication Engineering at Shaheed Bhagat Singh State University, Ferozepur.

Qualification**Specialization: Electronics & Communication Engineering**

1. Ph.d. from IKG Punjab Technical University, Kapurthala in the area of Machine Learning, Signal, image & Video processing during 2011-2018
2. M.Tech Electronics & Communication from Punjab Technical University(part time), Thesis project on modeling a control system for autonomous navigation of car like robot in MATLAB environment during 2003-2008
3. B.Tech from Guru Nanak Dev University, Amritsar during 1994-98 with 74%.

Skill Set

Name of Field	Work Experience (in approximate number of years)
Machine Learning	6 yrs
Signal/Video/Image processing	6 yrs
Embedded systems Design/development	6 yrs

MATLAB	16 yrs
Development in CUDA using C/C++	4 yrs
Development in CUDA using MALAB	6 yrs
Software/firmware development using C/Assembly Language.	4 yrs
Microcontrollers (8 bit 8051, AVR).	4 yrs
Networking/Hardware/Systems administration (Windows/MAC/Linux).	2 yrs
Digital/Analog Electronics System Design and simulation.	4 yrs
Digital Signal Processing(DSP) based systems design/development.	4 yrs
Circuit design using VHDL (Xilinx)	2 yrs
Development of fuzzy Type-1 & Type-2 based systems in MATLAB environment.	2 yrs
Web Development using Java Script/HTML/Dreamweaver/PHP, Using CMS Joomla	1 yrs
Modeling Autonomous Navigation	2 Yrs

Preferred Domain Areas

- Research & Development in the field of Machine learning
- Data, Signal, image and video Processing
- Embedded Systems Design/Development/Research
- EDA systems Design/Development/Research
- DSP based systems design/Development/Research

Work Experience

Total of 22 years

Sr.	Period /duration	Employer	Design-ation	Area / Field of working
	July, 2005-	Shaheed Bhagat	Associate professor	<u>Subjects Undertaken</u> : Digital Signal Processing Using MATLAB,

	Present (21 Years)	Singh State University, , Ferozpur, Punjab.		Microcontrollers & Embedded Systems, Neural Networks & Fuzzy Logic, VLSI, Signals and Systems, Electronic Measurements, Analog and Digital Electronics Worked into projects of Digital signal processing/ Machine learning/Analog /Digital/Embedded/VLSI based Systems: Autonomous navigation of robot, Moving message display using AVR and interface in Visual Basic
1	From Sep. 30, 2009 till October 2011 (2 Years)	Malout Institute of Management & Information Technology, (On deputation from SBS State University)	Assistant Professor, Department of ECE	Study, Teaching & Research in the subjects of Electronics & Communication Engineering Handling the charge of Institute's Training & Placement Activities as Assistant Training & Placement Officer
2	Aug 2003-june 2005 (1year & 10 ½ months)	BMSCE (Bhai Maha Singh . College of Engg.), Muktsar, Punjab.	Lecturer	<u>Subjects</u> : Electronics Circuits Design , Analog Electronics, Network analysis, Microprocessor, Microcontrollers, VHDL Project in-charge : Moving message display, Mechanical rotational scanning display. Worked into Analog systems and Embedded systems design
3	March 2001-june 2003 (2 years & 3 months)	Encoders India, Faridabad	Systems Software engineer	Embedded systems development, designing of digital logic of circuit, simulation, development in Assembly language and C, Hardware testing. Microcontrollers: 8051, AVR from ATMEL. <u>Tools</u> : PC, Programmer, Simulator, Cross compilers/assemblers, Design and development tools(graphical and NON-gui based), Hardware testing Tools.
4	Sep 2000, march	Bizcom Technologies, New	Software developer	Web software development/ server side scripting.

	2001 (7 months)	Delhi		Tools : Java, JSP, HTML, java script, Dreamweaver etc.
5	Dec 1999- sep 2000 (10 months)	Computer Kids, New Delhi	Systems Engineer	Installation and administration of Systems/network of around 100 computers, 8 labs, in windows, MAC & Linux environment. Systems/application software administration. Hardware/Network troubleshooting.
6	Oct. 1998- Nov, 1999 (1 year)	R.S two three two pvt. Ltd., New Delhi	Customer Support Engineer	Installation and maintenance of systems/networks in MAC/windows/UNIX/Linux environment at customer end. Hardware/Network troubleshooting. Management of AMCs in govt. and private sector.
7	June 1998- Oct 1998 (4 months)	ISCT, Ferozpur	Trainer	Training in Operating systems, C/C++ and Office packages.

Educational Track Record

Matriculation	Punjab School Education Board	1992	81 %
Higher Secondary	Punjab School Education Board	1994	75%
B.Tech(ECE)	Guru Nanak Dev University	1998	74%
M.Tech(ECE)	IKG Punjab Technical University	2003-08	62%
Ph.D.	IKG Punjab Technical University	2011-18	77.33%

Research Papers in Peer-Reviewed/SCI/UGC/AICTE Listed Journals

Sr	Title of the Paper	Authorship	Year	Journal Name	Vol. No.	Page No.	ISSN No.
1	GPU accelerated face detection from low resolution surveillance videos using motion and skin color segmentation	One of the Two Author / First and Princip	2018	OPTIK	157	1155-1165	0030-4026

Sr	Title of the Paper	Authorship	Year	Journal Name	Vol. No.	Page No.	ISSN No.
		al/ Corresponding Author					
2	Modified Viola–Jones algorithm with GPU accelerated training and parallelized skin color filtering-based face detection	One of the Two Author / First and Principal/ Corresponding Author	2019	Journal of Real Time Image Processing	16	1573-1593	1861-8200
3	A Novel Face Features Extraction and Neural Network Based Face Quality Assessment Technique	One of the Two Author / First and Principal/ Corresponding Author	2017	International Journal of Signal Processing, Image Processing and Pattern Recognition	10	75-84	2005-4254
4	A Novel Facial Image Resolution Enhancement Algorithm using Pixels Homogeneity	One of the Two Author / First and Principal/ al/	2017	International Journal of Advanced Research in Computer Science	8	524-530	0976-5697

Sr	Title of the Paper	Authorship	Year	Journal Name	Vol. No.	Page No.	ISSN No.
		Corresponding Author					
5	Face Detection and Extraction from Low Resolution Surveillance Video Using Motion Segmentation	One of the Two Author / First and Principal/ Corresponding Author	2017	International Journal on Computer Science and Engineering	9	175-282	2229–5631
6	Graphical Processing Unit Accelerated Face Resolution Enhancement using Pixels-Homogeneity and Relative-Ratios	One of the Two Author / First and Principal/ Corresponding Author	2017	International Journal of Current Research and Review	9	1-5	2231-2196
7	Novel Cascade Kernel Configurations of Haar Classifiers In Boosting based Machine Learning For Improved face detection.	One of the Two Author / First and Principal/ Corresponding Author	2021	International Journal of Electrical Engineering and Technology	12	8-14	0976-6545

Sr	Title of the Paper	Authorship	Year	Journal Name	Vol. No.	Page No.	ISSN No.
		ponding Author					
8	Centralized Smartphone based platform for Examinations	One of the Two Author / First and Principal/ Corresponding Author	2021	International Journal of Electrical Engineering and Technology	12	80-91	0976-6545
9	Neural network based facial image quality estimation system and training analysis	One of the Two Author / First and Principal/ Corresponding Author	2021	International Journal of Electrical Engineering and Technology (IJEET)	12	56-66	0976-6545
10	TRAINING ANALYSIS OF HAAR-CLASSIFIERS FOR FACE DETECTION	One of the Two Author / First and Principal/ Corresponding	2021	International Journal of Electrical Engineering and Technology	12	320-327	0976-6545

Sr	Title of the Paper	Authorship	Year	Journal Name	Vol. No.	Page No.	ISSN No.
		g Author					
11	ADAPTIVE WEIGHT ANALYSIS FOR LEARNING OF A HAAR-CLASSIFIERS BASED FACE DETECTION CASCADE	One of the Two Author / First and Principal/ Corresponding Author	2021	International Journal of Electrical Engineering and Technology	12	459-467	0976-6545
12	Haar-features training parameters analysis in boosting based machine learning for improved face detection	One of the Two Author / First and Principal/ Corresponding Author	2021	International Journal of Advanced Technology and Engineering Exploration	8	919-931	2394-5443
13	Contrast enhancement analysis of video sequence in the temporal-based (TB) method	One of the Two Author / First and Principal/ Corresponding	2014	International Journal of Electronics Engineering	6	25-29	0973-7383

Sr	Title of the Paper	Authorship	Year	Journal Name	Vol. No.	Page No.	ISSN No.
		Author					
14	A general review of face hallucination methods	One of the Two Author / First and Principal/ Corresponding Author	2015	International Journal of Advanced Research in Computer Engineering & Technology	4	1633-1639	2278-1323
15	An Improved Type-1 Fuzzy Logic Method for Edge Detection	One of the Two Author / First and Principal/ Corresponding Author	2015	International Journal of Advanced Research in Computer Engineering & Technology	4	1640-1644	2278-1323
16	Methods of Image Edge Detection: A Review	One of the Two Author / First and Principal/ Corresponding	2015	Journal of Electrical & Electronic Systems	4	1-5	2332-0796

Sr	Title of the Paper	Authorship	Year	Journal Name	Vol. No.	Page No.	ISSN No.
		Author					
17	Face Hallucination Using Sparse Representation Algorithm	One of the Two Author / First and Principal/ Corresponding Author	2015	International Journal of Advanced Research in Computer Engineering & Technology	4	3691-3697	2278-1323
18	Human face pose estimation based on feature extraction points	One of the Two Author / First and Principal/ Corresponding Author	2016	International Journal of Computer Application	142	41-43	0975 – 8887
19	Image Enhancement for Medical Images Using Improved HSF	One of the Two Author / First and Principal/ Corresponding	2016	International Journal of Advanced Research in Computer and Communication Engineering	5	834-836	2278-1021

Sr	Title of the Paper	Authorship	Year	Journal Name	Vol. No.	Page No.	ISSN No.
		Author					
20	Behavior of position based routing in VANET	One of the Two Author / First and Principal/ Corresponding Author	2016	International Journal of Computer Applications	145	49-52	0975 – 8887
21	Evaluation of Quality Factors for the Captured Facial Image	One of the Two Author / First and Principal/ Corresponding Author	2016	International Journal of Computer Applications	142	43-46	0975 – 8887
22	Improved VSRP using Route Table in VANET	One of the Two Author / First and Principal/ Corresponding	2017	International Journal of Innovative Research in Electrical, Electronics, Instrumentation and Control Engineering	5	40-43	2321 – 2004

Sr	Title of the Paper	Authorship	Year	Journal Name	Vol. No.	Page No.	ISSN No.
		Author					
23	Image Edge Detection by Using Rule Based Fuzzy Classifier	One of the Two Author / First and Principal/ Corresponding Author	2011	International Journal of Computer Science and Information Technologies	2	2434-2439	0975-9646
24	Fuzzy Logic Based Image Edge Detection Algorithm in MATLAB	One of the Two Author / First and Principal/ Corresponding Author	2010	International Journal of Computer Applications	1	55-58	0975-8887