Office of the Dean (Research and Consultancy) S V National Institute of Technology, Surat

Database of SVNIT Faculty Members: Research Specializations and Expertise

Department of Electronics Engineering						
Sr no	Name of the faculty member	Research Specialization to be displayed on the R&C website.	Any specific interesting research problems that the faculty member is working or intends to work upon			
1.	Dr. (Mrs) Upena. D. Dalal	Wireless Communication techniques 5G technology Wireless systems Optical wireless Signal processing	 SDN in VANET Intelligent Medical IOT Cellular planning with Machine Learning 5G Terchnology 			
2.	Prof. Naresh B. Kanirkar	CDMA Mobile Communication	 IoT based Smart Automatic Parking System IoT based Early Flood Detection System IoT based Smart Agriculture System Design implementation of Antenna for 5G 			
3.	Prof. Prashant K. Shah	LMI Based Improved Stability Criteria (DSP based)	 Digital Signal and Image Processing, Adaptive and Nonlinear filtering, Artificial Intelligence application LMI Based Improved Stability Criteria (DSP based) 			
4.	Dr. Jignesh N. Sarvaiya	Image Processing Image Registration, Deep Learning, Medical Instrumentation	Bio Impedance MeasurementDeep learning in Healthcare			
5.	Dr. Anand D. Darji	VLSI Design FPGA-based systems design Device modelling VLSI DSP architecture Embedded System Design Electronics Instrumentation Signal Processing Bio-medical Signal/image processing	 Wearable low power bio sensor FPGA based embedded system design Low cost IoT based embedded systems for agriculture and smart city Hardware optimization of DSP Architecture MEMS based sensor for HMI detection Flexible electronics based sensor design 			
6.	Dr. PIYUSH N. PATEL	Optical Communications and Networks Photonics Devices & Sensors Microwave Antenna and Wavegudes Metamaterial based Sensors Optical, RF, Metamaterial based Sensors & Biosensors	 Wearable RF Sensors Metamaterial based Sensors Optical Sensors 			
7.	Dr. Zuber M. Patel	HDL/FPGA based design VLSI Design of RISC Microprocessors FPGA/ASIC Design of wireless transceiver hardware Embedded Systems	 Autonomous drone for plant inspection LDPC decoding hardware based on deep learning algorithm Custom RISC-V CPU design for low energy devices Intelligent accident detection and alerting system 			
8.	Prof. Pinalkumar J. Engineer	FPGA based system design VLSI architecture for real-time signal/image processing High performance embedded computing Embedded and real-time systems	 Robots for Precision agriculture FPGA implementation of Communication System Edge Computing for Computer VIsion applications Smart Camera for Visual Sensor network Multicore processor architecture for Computer Vision applications High performance embedded computer vision FPGA based Embedded CNN architecture High Performance Embedded Computing for Computer Vision Embedded Control for robotics and automation 			
9.	Dr. (Mrs.) Rasika N. Dhavse	Micro - Nano Electronics, VLSI Design, Bio Medical Measurment System	 Paper and pencil based sensors Novel semiconductor devices Bio impedance measurement system Digital Filter Design for biological measurements 			
10.	Dr. Abhilash S. Mandloi	Fibre Optics Optical Communications, Optical Networks, Free Space Optics, Photonic Devices, Integrated Optics	 design of optoelectronic circuits optical transmitter and receiver design design of signal conditioning systems for sensors. 			

11.	Dr. (Ms.) Jigisha N. Patel	Signal Processing, Wireless Communication Image / Video Coding	 Image compression signal Detection /Estimation using deep learning
12.	Dr. (Ms.) Shilpi Gupta	5G Technology Massive MIMO Detection Techniques Antenna Design for 5G Applications Waveform Designing for MIMO Radar Free Space Optics Fiber Optic Sensors	 Design and implementation of optical wireless communication link Deep learning based Wireless system Design implementation and Fabrication of Antenna for MIMO/ 5G applications Long Period Fiber Bragg Grating/ Fiber Bragg Grating sensors
13.	Prof. Golak Santra	Patch AntennaMicro-strip filter	 Gain and Efficiency enhancement of Electrically Small Antenna using Metamaterials, Electrically Small Antenna for portable and wearable devices. Efficient Millimeter wave antenna for 5G applications. Optical Antennas and Nano Antenna for short range Indoor application.
14.	Dr. (Mrs.) Shweta N. Shah	Wireless Communication Mobile Communication and standards Digital Video Broadcast and standards Cognitive Radio NavIC/IRNSS	 Indoor and Outdoor navigation model development NavIC based product development for commercial or for research based Jamming/Spoofing identification and mitigation SDR based system development Intelligent Traffic management system as a complete solution GIS based application development, mapping of infrastructure with more precision based on NavIC+GPS Wireless Communication for infrastructure development landslide monitoring using GNSS with application Wireless data analysis using deep learning
15.	Prof. Mehul C. Patel	Digital Signal Processing using VLSI	 Design & Implementation of scalable and high-speed Image processing algorithm design on FPGA platform. Design & Implementation of high speed and scalable encryption and decryption standard for Security application. Design and implementation of communication systems on hardware platforms. Design and development of various protocols for high speed communication over channel. scalable and optimum design of f SDR and NFV protocol. FPGA/ASIC Design of wireless transceiver hardware.
16.	Dr. Kishor P. Upla	Machine/Deep Learning Object detection/recognition, Multi-spectral and hyperspectral image processing Image Restoration Bio-medical Image Fusion Information Fusion Multi-Resolution Image Fusion/Pan- Sharpening Image Super – Resolution	 Image fusion using MS and Pan images (Pan- sharpening) and fusion of other modalities Image Super-resolution for visible and thermal images Night vision surveillance Low-resolution face recognition Image restoration No-reference Image quality assessment Video Deblurring
17.	Dr. Deepak Joshi	Metaheuristics, Analog Circuits: Design and Optimization, Computational Intelligence, CAD for VLSI	 Many - objective optimization for real world problems, preferably in VLSI design
18.	Dr. Suman Deb	Signal Processing,Speech Processing,Speech based Health Analysis, Emotion Analysis based on Speech and Image,Speech Pathology Detection, Voice Conversion/ Speaker Identity Conversion,Pattern Recognition	 Person's Emotion detection from speech Speech based health Analysis Different disease analysis from the speech signal Heart rate analysis from the speech signal

19.	Dr. Abhishek Acharya	Physics & Modeling of Nano-Scale Devices, Device-Circuit Interactions in Nano- Scale Transistors, Wide Bandgap Semiconductors and 2D Materials for Devices & Circuits	 Design and Modelling of Solar Cell for High Energy Efficiency Modeling of High Voltage (40-60V) N /P LDMOS devices Realization of high quality Gallium Nitride epitaxial FinFET devices for power electronics
20.	Dr. Kamal Captain	Cognitive Radio, Signal Processing, Statistical Signal Processing, Wireless Communication, Machine Learning	 Cognitive radio for improving spectrum utilization Modulation classification in wireless communication
21.	Dr. Kirti Inamdar	Microstrip Patch Antenna design using Metamaterials, Wearable Antennas	 Metamaterial based antenna designing Wearable Antennas Development of RF active and passive devices
22.	Dr. Raghvendra Pal	Wireless ad hoc Networks, Vehicular ad hoc Networks, Machine Learning for wireless communication, Medium access control.	 Optimal cognitive channel selection using deep learning in Vehicular adhoc Networks. Efficient channel utilization in the Internet of Vehicles. Clustering in the Internet of Vehicles. Analyzing the impact of various Machine learning algorithms on the performance of Internet of Vehicles Prototype designing for the Internet of Vehicles using Raspberry pi.
23.	Dr. Shivendra Yadav	Modeling and simulation of Micro Nano Semiconductor Devices, Application and Design of Nano Devices for Biomedical Applications, Linearity and High Frequency Parameter Analysis of Hetero-material Nano Semiconductor Devices, Modeling and simulation of Negative Capacitance in Ferroelectric Thin Films.	 Modeling and Simulation of Micro Nano Semiconductor Devices Design of Nano Device Sensors for Biomedical Applications Linearity and High Frequency Analysis of Hetero- Material Devices Modeling and Simulation of Negative Capacitance in Ferroelectric Thin Films
24.	Dr. Vivek Garg	Optoelectronic Devices (Photovoltaics, Photodetectors), Quantum Technology (Imaging, Sensing and Communication), Energy Storage Devices (Supercapacitors and Fuel Cells), Modelling of Nanoscale Devices, Optical Communication	 Ultrathin Photovoltaic Devices Quantum Imaging and Sensing Nanoscale Devices for biosensing application Quantum communication 2D material based Supercapacitor New material excavation for Energy Harvesting and storage