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EDUCATION:

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|---|---------------------------|-------------|-------------------------------|
| B. Tech. (Hon.) | IIT-Bombay | 1973 | Electrical Engineering |
| Diploma of Philips International Institute | Eindhoven, Holland | 1974 | Digital Technique |
| Master of Electronic Engineering | NUFFIC, Holland | 1975 | Data Communication |

EXPERIENCE:

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|---|--------------------|
| Tata Engineering & Locomotive Co. Ltd. (TELCO), Pune | 1975 - 1978 |
| Electronica Pvt. Ltd., Pune | 1978 - 1982 |
| Ashok Saraf And Associates | 1982 - 2006 |
| KPIT Cummins Infosystems Ltd. Japan | 2006 - 2008 |
| Ashok Saraf And Associates | 2008 - 2009 |
| Jain Irrigation Systems Ltd | 2010 |
| Battelle India | 2011-2013 |
| Syslab Automation Pvt Ltd | 2013- |

HONORARY ASSIGNMENTS:

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| Trustee | Science & Technology Park, University of Pune. |
| Chairman | Pune Electronics Co-operative Society Ltd., Pune. |

EXPERTISE:

- **Electronic Design**
- **Microprocessor Systems**
- **Computer Software Development Projects**
- **Management of Industrial Units.**
- **Project Management.**
- **Entrepreneurship Development.**
- **Manpower Development and Training.**
- **VLSI Design Verification**
- **Outsourcing Management**
- **Japanese Accounts Management**
- **Business Advisor**
- **Mentoring for new start ups**

SOME OF THE ORGANISATIONS WORKED FOR AS CONSULTANT:

- Accurate Engineering, Pune
- BALCO, Korba.
- Infosys, Bangalore.
- BHEL Research and Development, Bangalore.
- Central Institute for Higher Tibetan Studies, Sarnath.
- Electronica
- Gujarat High Court, Ahmedabad.
- Kirloskar Pneumatics Co., Pune
- Kirloskar Oil Engine, Pune
- SAJ Froude Test Plant Pvt. Ltd.
- Sakal Papers Ltd., Pune
- TELCO, Pune
- KPIT , Pune
- Q-Soft Pvt. Ltd., Pune
- Jain Irrigation Systems Ltd.
- SBEM Pvt Ltd.

Experience in various Projects:

| Year | Area | Project Description | Role | Organization |
|-----------|--------------------------------|--|--|--------------------------------------|
| 2013-14 | Quality Management Software | Implementation of Blulink Quarta Software solution in Indian market | Systems Consultant | Accurate-Blulink. |
| 2013 | Japan Engagement | Connect with Japanese SME for potential support in India market | Advisor, International Business | Messung Global Connect |
| 2011-2013 | Research | Electronics R & D projects | Research Leader | Battelle India |
| 2010 | Electronics R&D and Production | Setting up and managing Electronics R&D and Production unit for Energy Park at Jain Irrigation Systems Ltd Jalgaon | Sr. Vice President and Advisor to Chairman | Jain Irrigation Systems Ltd. Jalgaon |
| 2009 | Metrology | CAM Shaft inspection Machine Software | Consultant | Accurate |
| 2008 | VLSI | Nanotime Usage for Model Generation for MCU VLSI circuit | Engagement Manager | KPIT Japan |
| 2008 | VLSI | Middleware Tiny Library modules | Engagement | KPIT Japan |

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| | | | Manager | |
| 2008 | VLSI | Digital Fault Simulation using ZO1X | Engagement Manager | KPIT Japan |
| 2007 | VLSI | DVD SoC | Engagement Manager | KPIT Japan |
| 2007 | VLSI | AMS VLSI Design for MCU , Power management , Clock and ADC/DAC | Engagement Manager | KPIT Japan |
| 2007 | VLSI | CAN Gateway Verification | Engagement Manager | KPIT Japan |
| 2007 | VLSI | DDR IP design | Engagement Manager | KPIT Japan |
| 2006 | VLSI | IO Design | Engagement Manager | KPIT Japan |
| 2006 | Embedded | TV SoC Ref. design development | Onsite Engineer and Engagement Manager | KPIT Japan |
| 2006 | VLSI | Memory Model | Engagement Manager | KPIT Japan |
| 2006 | Embedded | Application Tool design and testing | Engagement Manager | KPIT Japan |
| 2006 | Embedded | DVD Soc Firmware Design | Engagement Manager | KPIT Japan |
| 2006 | Embedded | Electric Vehicle Control System design for Mahindra & Mahindra R&D | Consultant | S & T Park, Pune University |
| 2005 | VLSI, Education | ixed Signal VLSI design projects faculty | Faculty | MSRSAS, Bangalore |
| 2005 | Systems | Sattelite Image based Survey project | Consultant | LAVASA, Science & Technology Park , Pune University |
| 2005 | Systems | Development of LPG Dispensing system | Consultant | Vanaz Engineering |
| 2005 | Embedded | Development of Gas Vonversion Systems for Automotive | Consultant | Vanaz Engineering |
| 2004 | IT , Web Based Solution | Software Development for CRM system | Project Consultant | Electronica |

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| 2003 | IT, Client Server Solution | Software Development for Finance and Leasing Company | Project Consultant | Electronica |
| 2001 | IT , Desktop Solution , IP | Software Development for Machine Vision based Metrology | Project Consultant | QVI Group , USA |
| 2001 | IT, Industrial Solution, IP | Software Development for CNC EDM machines | Technical Consultanat | Electronica |
| 2001 | IT, Industrial Solution, IP | Software Development for CNC Wirecut EDM machines | | Electronica |
| 1999 | IT, Industrial Solution, IP | Software Development for Tank Farm management System | Technical Consultant | SBEM Pvt Ltd |
| 1997 | Embedded | Compact Microprocessor controller for plastic molding machine | System Design Engineer and Director | Syslab |
| 1997 | Embedded | Development of PC based Gear Roll Testing machine | System Design Engineer and Director | Syslab |
| 1997 | Embedded | Public Display System for PLC for shop floor use. | Technical Director | Syslab |
| 1997 | IT, Industrial Solution, IP | Windows based Engine Test system software. | Technical Consultant | SAJ Test Plant Automation Pvt Ltd. |
| 1997 | IT, Consulting | Computerization at Institute of Higher Tibetan Studies. | Technical Consultant | CIHTS , Sarnath |
| 1997 | Operations | Setting up holistic educational Institute with electronics and computer technology curriculum as base. | Director and Faculty | Ujjivinee |
| 1996 | Embedded | Electronics Attendance Recorder with PC based software. | Design Engineer and Director | Syslab |
| 1996 | Embedded | Microprocessor controller and data acquisition system for Burning in system for lighting arrestor blocks | System Design Engineer and Director | Syslab |
| 1996 | Embedded | Microprocessor controller (Mitsubishi equivalent) for Plastic Molding machine | System Design Engineer and Director | Syslab |
| 1996 | Embedded, DSP | Radar Level Gauge Development (Microwave & DSP) | Technical Consultant | SBEM Pvt Ltd |

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|------|--------------------|--|---|-----------------------------------|
| 1996 | IT, Consulting | Project Report for Modern High Court Building | Technical Consultant | Gujarat High Court , Ahmedabad |
| 1996 | ICT, Consulting | Rural Communication System using CB Radio | System Developer and Contractor | District Collectorate Yawatmal |
| 1996 | Embedded | Refrigerated van temperature recorder/printer | System Design Engineer and Director | Syslab |
| 1996 | IT , HR Consulting | Starting up Software Export Unit | Consultant | Perisol, Pune |
| 1996 | ICT, Consulting | Setting up Social project groups based on IT | Consultant | Prayog Pariwar |
| 1995 | VLSI | Setting up and mentoring a Mixed signal VLSI design group for a company in Hyderabad | Technical Consultant and Delivery Manager | Vyamenich Design Hyderabad |
| 1995 | VLSI | Calibration DAC schematic to GDS | Technical Consultant and Delivery Manager | Vyamenich Design Hyderabad |
| 1995 | VLSI | 300 MHZ 6 Bit Flash ADC schematic design | Technical Consultant and Delivery Manager | Vyamenich Design Hyderabad |
| 1995 | VLSI | GmC Filter IP design | Technical Consultant and Delivery Manager | Vyamenich Design Hyderabad |
| 1995 | Embedded | Microprocessor Controller for Windsor range of Plastic Molding Machine | Design Engineer and Director | Syslab |
| 1995 | Embedded | Automatic Test System for lighting Arrestor blocks | System Design Engineer and Director | Syslab |
| 1995 | Embedded | PID Controller and instrumentation system for TV Tube plant. | System Design Engineer and Director | Syslab |
| 1995 | Embedded | Industrial PC for Bearing Production line | System Design Engineer and Director | Syslab |

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| 1995 | Embedded | MMI Display for PLC systems | System Design Engineer and Director | Syslab |
| 1994 | Embedded | Programmable Process Controller for Flow control | Design Engineer and Director | Syslab |
| 1994 | Embedded | Microprocessor controller for Sulphur burner in sugar factory | Design Engineer and Director | Syslab |
| 1994 | Embedded | Microprocessor controller for tapping machine | Design Engineer and Director | Syslab |
| 1994 | Embedded | Programmable Automatic Cable Harness Testers for Automobile | System Design Engineer and Director | Syslab |
| 1993 | Embedded | Digital Gauging Products as OEM for LVDT | Design Engineer and Director | Syslab |
| 1993 | Embedded | Microprocessor Controller for KAUSY make Plastic Molding Machine as retrofit | Design Engineer and Director | Syslab |
| 1993 | Embedded | Shop floor Data Collection and Productivity Monitoring System for M/s. Kirloskar Pneumatics Ltd. (PC Based.) | Design Engineer and Director | Syslab |
| 1993 | Embedded | Metrological Data Collection and Gauge data Management System for M/s. Kirloskar Pneumatics Ltd. (PC Based.) | Design Engineer and Director | Syslab |
| 1993 | Embedded | Calibration and Maintenance of Metrology Instruments | Technical Consultant | Kirloskar Pneumatics Ltd |
| 1993 | Embedded | Reverse Engineering study of PLC system for Assembly Machine | Design Engineer and Director | PHILIPS |
| 1993 | Embedded | PLC Simulation and Programming software on PC | Design Engineer and Director | Syslab |
| 1993 | Embedded | Industrial PC for CNC system based on PC | System Design Engineer and Director | Syslab |
| 1993 | Embedded | Automatic Irrigation schedule controller for farms | System Design Engineer and | Syslab |

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|------|-----------------|--|-------------------------------------|-----------------------|
| | | | Director | |
| 1992 | Embedded | Production monitor for biscuit making machine. | Design Engineer and Director | Syslab |
| 1992 | Embedded | Supply voltage monitor printer. | System Design Engineer and Director | Syslab |
| 1992 | Electronics | Electronic Ballast | System Design Engineer and Director | Syslab |
| 1991 | Operations | Setting up Engine Technology Consultancy Unit | Managing Director | SAJ Autotech Pvt Ltd. |
| 1991 | Embedded | Microprocessor based fuel consumption measurement unit | System Design Engineer and Director | Syslab |
| 1990 | Embedded | Cable Harness Tester for MIG Aircraft cable Looms | Technical Consultant | ASAA |
| 1990 | Embedded | PC Keyboard for Industrial use (Steel Mill) | System Design Engineer and Director | Syslab |
| 1989 | Embedded | Preparation of Product Development Plan for Network Products | Technical Consultant | Infosys |
| 1989 | Embedded | Electronic Maintenance for Automobile Manufacture Plant | Technical Consultant | Mahindra & Mahindra |
| 1989 | Embedded | PC based CNC controller for co-ordinate measuring machine | Design Engineer and Director | Syslab |
| 1988 | Embedded | Frontline Test Rig for Jaguar Aircraft. | Technical Consultant | ASAA |
| 1988 | Operations | Project report for Center for Electronics Design and Technology | Technical Consultant | ASAA |
| 1988 | ICT, Consulting | Computerization for Local Newspaper Industry | Technical Consultant | ASAA |
| 1988 | Operations | Setting up Science and Technology Park in Pune University | Founder Director and Trustee | Pune University |
| 1988 | Electronics | Reconditioning and PC Interfacing of Digital Read Outs for Inspection machines | Design Engineer and | Syslab |

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|------|-----------------------------|---|-------------------------------------|---|
| | | | Director | |
| 1988 | Embedded | Industrial PC for shop floor use on Electric Discharge Sawing machine | System Design Engineer and Director | Syslab |
| 1987 | Embedded | Clear Text Display for SIEMENS as OEM | Design Engineer and Project Manager | Syslab |
| 1987 | Embedded | Real Time Interface unit for SIEMENS as OEM | Design Engineer and Project Manager | Syslab |
| 1987 | Electronics | Control Panel Assemblies for Engine Test Systems | Project Manager | Syslab |
| 1987 | Electronics | Electronic Training Kits for Polytechnics | Design Engineer and Project Manager | ASAA |
| 1986 | Embedded | PLC Programming Unit for SIEMENS as OEM | Design Engineer and Project Manager | Syslab |
| 1986 | Embedded | Industrial Keyboard for SIEMENS as OEM | Design Engineer and Project Manager | Syslab |
| 1986 | Operations | Setting up Community School and Educational society | Promoter | Sopanbag |
| 1986 | Operations | Setting up Co-operative Industrial Estate for small group | Promoter, Chairman | Pune Electronics Cooperative Society Ltd. |
| 1986 | Operations | Setting up Electronics Diploma College | Promoter, President | Nagarjun Abhyantriki Maha Vidyalaya |
| 1985 | IT, Industrial Solution, IP | Co-ordinate Measuring Machine Development | Technical Consultant | Accurate Engineering Pvt Ltd |
| 1985 | Education | T raining Courses in Basic Programming | Faculty and Director | IECT |
| 1985 | Embedded | Data Logger for Engine Test System | Design Engineer and Project | Syslab |

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| | | | Manager | |
| 1984 | Embedded | 64 Channel Data Logger | Design Engineer and Project Manager | Syslab |
| 1984 | Embedded | Microprocessor Controller for Electroplating Plant | Technical Consultant | ASAA |
| 1984 | IT, Industrial Solution, IP | Computerized Engine Test System Development. | Technical Consultant | ASAA |
| 1984 | Embedded | Diagnostic system for Microprocessor Controls in Aluminum Extrusion Plant at BALCO | Design Engineer and Director | Syslab |
| 1984 | Embedded | Base line height controller for rolling mills | Technical Consultant | Systech Pvt.Ltd. |
| 1983 | Electronics | Digital Logic Probe for TTL and CMOS | Design Engineer and Project Manager | Syslab |
| 1983 | Embedded | Point of Sale Terminal system TRANSACTOR | Design Engineer and Project Manager | Syslab |
| 1983 | Embedded/ Tools | EPROM Simulator for Microprocessor Software Development | Design Engineer and Project Manager | Syslab |
| 1983 | Embedded | Scrolling Advertisement Display for TV | Design Engineer and Project Manager | Syslab |
| 1982 | Education | Training Courses in CNC Programming | Faculty and Director | IECT |
| 1982 | Education | Training Workshops for Microprocessor Technology | Faculty and Director | IECT |
| 1982 | Electronics | Inductosyn type Digital Read Out for M/c Tools | Design Engineer and Project Manager | Electronica |
| 1982 | Embedded | 6 Axis CNC Machine Tool Controller for Turret Lathe | Design Engineer and Project Manager | Electronica |
| 1979 | Operations | Technical Support for Sales and Service | Project | Electronica |

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|------|-----------------|---|-------------------------------------|---|
| | | for Japanese CNC Machines in India | Manager | |
| 1979 | Electronics | Solid State Control Relay modules for Machine Tools controls. | Design Engineer and Project Manager | Electronica |
| 1979 | Electronics | Programmable Sequence Controller for Lathe | Design Engineer and Project Manager | Electronica |
| 1977 | Electronics | Programmable Logic Controller | Design Engineer | Electronica |
| 1976 | Electronics | CRT Display Terminal | Design Engineer | Tata Motors |
| 1975 | Electronics | Production Control Data processing machine using TTL MSI Logic | Design Engineer | Tata Motors |
| 1974 | Electronics | Color Video Camera Studio Equipment link modulator design | Student Trainee | ELA , Breda Philips Holland |
| 1973 | Design Tools | Evaluation of Computer Simulation Language - ABC | Student Trainee | Philips Research laboratories , Holland |
| 1973 | Hardware design | Hardware extension in MINSK2 Computer , Hybrid computing instructions | Student Project | IIT Bombay |
| 1972 | Electronics | Study of Low Power Communication Equipments | Student Trainee | Bharat Electronics Ltd. Bangalore , India |