Bellamkonda Kanakadurga Nikhitha
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Education

Master of Science in Electrical Engineering (August 2015-August 2016)
Pennsylvania State University, University Park Campus GPA 3.67

Bachelor in Instrumentation Engineering (June 2009-June 2013)
Vivekananda Education Society Institute of Technology, University of Mumbai
First Class with distinction 72.3 %

Work Experience

Reliance Industries Limited, Patalganga Manufacturing Division, India

Maintenance Manager (July 2014 – June 2015)

- Direct and manage the plant maintenance staff, programs and processes, typically under direction of the plant operations manager, in order to ensure safe, timely and efficient operation of all plant machinery and equipment.
- Worked on Distributed control systems (ABB), Programmable logic Controllers(Yokogawa , Siemens),Terminal Automation Systems (Invensys limited), Guided Wave Radar Transmitters, Field Transmitters (flow temperature, pressure level flow) calibration.
- Worked on Programmable logic controllers Upgradation of compressor interlock systems
- Worked on Continuous Catalyst Regenerator programmable logic controller logic system upgradation.
- Worked on Modbus, HART, Profibus Protocols.
- Worked on PLC based Emergency Shutdown Systems and Burner Management System .
- Designed Graphics for operator and Engineering Workstations for DCS and PLC .

Graduate Engineer Trainee (July 2013 – July 2014)

Pursued training on interdisciplinary aspects Electrical, Mechanical, Instrumentation Chemical, Safety, Reliability at the site.

Reliance Industries Limited, Nagothane Manufacturing Division, India

Internship Experience (June 2011- July 2011),

- Analysed type , make of different type of control valves

Technical Skills

Spoken languages: English, Hindi, Marathi, Telugu

Languages: C++, C, Visual basic, Unix

Softwares: Adobe Photoshop 7.0, National Instruments LabVIEW, MATLAB, Keil µvision4, Microsoft Visual C++ 6.0, Eagle 5.1, MS Office'10, Micrologix RS, MS-Project, ABB DCS and PLC User interface, Cadence Virtuoso, Cadence Spectre, Cadence Hspice , Xilinx Vivado , Synopsys Tools (DC & ICC shell)

Group Projects

- **Design Accelerator for Skin Tone Detection (Xilinx Vivado, ModelSim, Verilog),** Pennsylvania State University
  Design Algorithm for Accelerator Data path, developed Verilog code for the system, optimized and tested the code in ModelSim for various testcases on common testbench , performed synthesis and timing analysis in Vivado , generate bit stream to test in FPGA.
- **RTL to Gate Level Synthesis of Traffic Light Controller System (Synposys Tools),** Pennsylvania State University
  Design a FSM Traffic light Controller system in Verilog HDL, optimized the code, performed Synthesis and Gate Level Simulation using Synopsys tools (DC Compiler, ICC Compiler) , calculated area, power, delay , and worst negative slack using TCL scripts.
- **Silicon Wafer Processing in Nanofabrication Lab,** Pennsylvania State University
  Carried out RCA clean, Thermal Oxidation, Photolithography, Atomic Layer deposition. Performed Wafer characterization test: C_V, Id -Vds, Ig - Vgs, learnt about tools used in the process.
- **Challenges in Building Heterogeneous Computer Architecture**, Pennsylvania State University
  Analyzed latency, bandwidth, software programming and memory challenges in combining heterogeneous computing units.

- **Spintronics and Spin Transistors,** Pennsylvania State University
  Studied spintronics , GMR ,Datta-Das Spin Transistors and their applications in logic devices.
- **A Low-Power High Resolution SOC for Intracranial Pressure Monitoring (Cadence Spectre, Cadence Virtuoso)**
  Guide: Dr.Mehdi Kiani , Assistant Professor , Pennsylvania State University
  Implemented Mixed Signal Design in 0.6 µm technology on Cadence Virtuoso platform that enables recording of Intracranial Pressure (ICP) which is the combination of the pressure exerted by the brain tissue, blood and cerebral spinal fluid (CSF). Design includes Instrumentation amplifier, bandgap generator, differential amplifier (Gain 69dB) , 10 bit SAR ADC , R-2R DAC and comparator . Performed simulations on individual blocks and fully integrated system using Cadence Spectre .
- **Design of 8-Bit Carry Bypass Adder with 4 bit chunks and 2 bit chunks in Cadence Virtuoso (Cadence Hspice, Cadence Virtuoso)**
  Guide: Dr.Sumeet Kumar Gupta , Monkowski Assistant Professor ,Pennsylvania State University
  Implemented an 8bit Carry Bypass Adder in Cadence Virtuoso using 4 bit chunks and 2 bit chunks at transistor level and created layouts, performed DRC and LVS checks, optimized layouts with respect to rise delay and fall delay for worst case inputs using Cadence Hspice simulation, compared the two adders by calculating tradeoffs between area, power.
- **Final Year Project**: **High Performance Design Using Composite Nonlinear feedback control(CNF) (June 2012- March 2013)**
  Guide: Mr. M. D. Patil(V.E.S.I.T, University of Mumbai, India)
  Project is a Research MATLAB model which addresses output regulation problem for general linear systems subject to input saturation by composite nonlinear feedback (CNF) control. Real life application –Flight Control, Missile Control, HDD Drive System
- **Group project :Automatic Plant Irrigator With 8051 Microcontroller(January 2012 –March 2012)**
  Guide: Mrs. Deepthi Khimani (V.E.S.I.T Chembur-74,India)
  Upgraded earlier version of the project that used operational amplifiers to an automated system using 8051 microcontroller . Performed assembly level coding on controller , Used Low cost sensors and simple circuitry which made it a low cost product. Project was selected to be presented in 'Technology day' held at V.E.S.I.T .
- **Mini Project: Automatic Plant Irrigator using Operational Amplifiers (June 2011- November 2011)**
  Guide: Mrs. Deepthi Khimani (V.E.S.I.T Chembur-74, India)
  The project focussed on irrigation without wasting water by comparing soil resistance . Used 741 Op-amp.

Additional Certifications

- **Professional Certificate of Competency in Instrumentation, Automation, Process Control –Online Engineering institute Of Technology** , Authorized by Australian Government Tertiary Education Quality and Standards Agency
- **Professional Certificate of Competency in SCADA Systems & PLCs–Online Engineering institute Of Technology** , Authorized by Australian Government Tertiary Education Quality and Standards Agency

Leadership

International Society of Automation –V.E.S.I.T Student Chapter, India

- ***Executive Cell*** **(2012-2013)**
  Organize Seminars / Events /Workshops/ Design Events Technical and nontechnical for Engineering Students
- ***Public Relations officer*** **(2011-12)**
  Interact with Professors, Staff Regarding the Events / Seminars and take their Permissions.
- ***Coordinator*****(2010-2011)**

Achievements and Extracurricular

- **Finalist in EDIFICE 2012 on "Cellular Technology in Process Control."**
- Published Article on '**Wireless Fieldbus** 'in Envisage 2012 I.S.A –V.E.S.I. T Technical Publication.
- Secured **2nd** Prize in '**Mastermind'2011** by IEEE –V.E.S.I.T STUDENT SECTION
- **Runner up** for Badminton in Intra-Collegiate Sports Fest **SPHURTI'2010-2011.**