Vikas Kasireddy

Electrical Engineer and Programmer

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EDUCATION

Brown University '2017

Sc.B. Electrical Engineering (Computer Engineering track)

Concentration GPA : 3.3

EXPERIENCE

WiTricity Corporation Intern

Watertown · Summer 2016

Electrical Engineering Intern at WiTricity, a company enabling wireless charging for cars and consumer electronics using magnetic resonance

VoltServer Intern

East Greenwich · Summer 2015

Electrical Engineering Intern at VoltServer, a startup that developed a new technology for POE called Packet Energy Transfer

Arani Power Systems Intern

Hyderabad, India · Summer 2013

Mechanical Engineering Intern at Arani Power Systems, a manufacturer of steam turbines established in India

COURSE WORK

ENGN 520 : Electrical Circuits and Signals

Brown University, Providence

Filters for noise attenuation, Signal modulation circuits, Feedback circuits and Crossover filter circuits

ENGN 1630 : Digital Electronics System Design

Brown University, Providence

Combinational and sequential logic, CMOS transistors and their implementation in VLSI systems, Memory and Register transfer machines, State machines, CPLDs and FPGAs, Timing measurements and A/D Converters

ENGN 1620 : Design and Analysis of Electrical Circuits

Brown University, Providence

Semiconductor technology for designing Amplifiers, Filters and Oscillators, Properties and Applications of various semiconductor devices like diodes, BJTs and FETs, design of Common Base, Common Emitter and Common Collector amplifier circuits

ENGN 1640 : Design of Computing Systems

Brown University, Providence

Floating point operations, Assembly language (ARM), Single cycle processor, Pipelining, Branch predictions, Cache memory, Virtual memory, DRAM and Flash, I/O, Superscalar design, Multi-thread and Multi-core design

ENGN 1650 : Embedded Microprocessor Design

Brown University, Providence

Microprocessor design and programming, PWM signal for speaker and motor control, flash memory integration and ADC implementation for IR signal detection

ENGN 1931F : Power Engineering

Brown University, Providence

Magnetic fields and materials, transformers and transmission lines, DC motors and properties of photovoltaic sources

ENGN 1570 : Linear System Analysis

Brown University, Providence

Analysis of discrete and continuous electrical signals and systems in both time and frequency domains, modulation, sampling and filtering.

Independent Study : Power Electronics

Brown University, Providence

Semiconductor devices like Diodes, SCRs, GTOs, TRIACs and IGBTs, Rectifier circuits including 3-phase systems and HVDC transmission.

PROJECTS

RADAR based Living Object Protection

WiTricity, Watertown

Design, PCB Implementation and Characterization of a complete LOP system that has a resistor pot based sensitivity. An off the shelf HB100 doppler radar module with amplifier filters and a comparator with a threshold input form the basis of this system. Thermal testing at various points and orientations to prevent overheating

Alignment for Vehicle Guidance

WiTricity, Watertown

Actively participated in the development of a fine alignment scheme, using magnetic field sensors, to obtain vehicle location with respect to charging coil

Viper

WiTricity, Watertown

A comprehensive software solution for expediting test measurements for all auxiliary systems. Complete automation of CNC test scans for magnetic field measurements, display and command centre for Foreign Object Detection, multiple threads for tracking the CNC position, parsing data from PSoC, and running the program for data acquisition

DC-DC Converter Test Setup

VoltServer, East Greenwich

Designed, using Altium Designer, a PCB board for testing six

DC-DC converters simultaneously.

555 Timer

VoltServer, East Greenwich

Implemented a 555 timer with variable frequency and duty cycle, to automate and expedite the process of testing the DC-DC converter setup.

LED Strip

VoltServer, East Greenwich

Designed a LED strip powered by PET technology that was used to study the dependence of plant growth on wavelength of light source

Load Banks and Thermal Testing

VoltServer, East Greenwich

Designed load banks for test setups of various transmitter and receiver boards in their development phase and performed extensive thermal testing on various components of these boards.

Operations and Production

VoltServer, East Greenwich

Gained experience using BOM manager for order placement of components. Worked with a small team on product assembly and quality assessment.

Hack@Brown

Brown University, Providence

Integrated a spark core into a remote controlled car within 24 hours, to transmit commands over WiFi.

Brown Building Society

Brown University, Providence

Contributed to the construction of a 12 foot Hovercraft as part of a team of 7 students.

Steam turbines

Arani Power Systems, Hyderabad

Worked alongside Arani's R&D department to develop components in SolidWorks. Gained hands-on experience using a lathe for manufacturing turbine rotors. Was involved in material selection based on user requirements.

SKILLS