VIJAY JOSEPH SAMUEL

ELECTRICAL ENGINEERING STUDENT

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EDUCATION

BACHELOR OF TECHNOLOGY, EEE

Vellore Institute of Technology, Chennai Campus

2016 – 2020 CGPA: 8.88

HIGHER SECONDARY EDUCATION

ARLM School, Cuddalore, Tamilnadu

2015 – 2016 %: 90.33

SECONDARY SCHOOL EDUCATION

ARLM School, Cuddalore, Tamilnadu

2013 – 2014 %: 95.60

TECHNICAL SKILLS

SIMULATION TOOLS

- PSPICE
- PSIM
- SIMULINK
- MATLAB

PROGRAMMING LANGUAGES

- C
- Python
- C++
- Java

SCHEMATIC & PCB DESIGN

- ALTIUM
- EAGLE
- EasyEDA
- ExpressPCB

EMBEDDED TOOLS

- Keil uVision
- MPLAB X
- STM32 CubeMX
- MCC Code Configurator

PROFESSIONAL SKILLS

- Problem solving
- Team building
- Risk taking
- Time management
- Team Leadership
- Researching
- Decision making

AREAS OF INTEREST

- DC-DC Converters
- Microinverters
- DC Microgrids
- Electric Vehicles
- BLDC/PMSM Drives
- Embedded systems
- Power supply design
- Internet of Things
- Neural Networks

PROFESSIONAL PROFILE

A passionate Engineer with strong proficiency in Power Electronics being inclined to work in an environment filled with challenges and hurdles. Worked extensively on design and development of DC-DC power converters. Currently, carrying out research on power converter interface for DC microgrid sub-systems. Looking for opportunities in power electronics domain.

PROFESSIONAL EXPERIENCE

RESEARCH & DEVELOPMENT INTERN

Planys Technologies, Chennai | May 2019 – June 2019

Developed firmware for a 350W sensorless BLDC system based on PIC16F microcontroller. Implemented closed loop speed controller using a PID controller. Developed a C library to facilitate SPI communication between microcontroller and MOSFET driver IC.

PROJECTS & RESEARCH WORK

HIGH GAIN DC-DC CONVERTERS

VIT Chennai | July 2017 – Present

- Design and development of various novel high-gain DC-DC converter topologies for DC microgrid applications.
- Carried out simulation studies using PSIM, pSPICE and SIMULINK.
- PCB design and Gerber file generation using ALTIUM, EAGLE and EasyEDA.
- Designed multi-layer PCB boards with high power density. Have developed boards of 100W to 300W power level.
- Implemented STM32 series microcontroller-based control system for the power converters.
- Developed DC-DC converters with onboard microcontroller and driver circuits.
- Firmware generation using Keil uVision by configuring timers, interrupts, PWM and other peripherals.
- Implemented closed loop control using PID controller for the DC-DC converters.

AWARDS & ACHIEVEMENTS

L&T TECHGIUM QUALIFIED

Presented a concept on LIDAR based AI enabled people tracking system in TECHgium 2019.

VALEO MAKEATHON WINNER

Design and development of a efficient DC-DC converter for EV application in makeathon organised by Valeo in technoVIT 2018.

RENSOL POWER ROBOTHON WINNER

Developed a novel full scale solar panel cleaning robot for solar-farm application in the event sponsored by Rensol Power, Chennai in technoVIT 2018.

TATA COMMUNICATIONS MAKEATHON WINNER

Developed a LORAWan based grain monitoring system using LORAWan and STM32F4 microcontroller in IOT Makeathon v4.0 organised by TATA Communications.

EXTRACURRICULAR ACTIVITIES

PHOTOGRAPHY

Photographer of VIT cultural fest VIBRANCE 2018 and a hobby photographer.

EVENT MANAGEMENT

Part of event management committee of ConnectiVITiee in techoVIT 2017.