Prabhpreet Singh Dua

http://prabhpreet.github.io
Work Status in the US: F-1 Visa Student

Email : psdua@ncsu.edu
Mobile : +1-984-444-9680

Profile

- Electrical Engineering Masters student at NC State passionate to work on power system challenges in integration of renewables.
- Diverse engineering background with Masters coursework in Power Systems, experience in embedded systems product development & projects in wireless communications.

Education

North Carolina State University – *Master of Science in Electrical Power Systems Engineering* Raleigh, NC
Courses: Power System Operation & Control, Power Electronics, Grid Communications & SCADA *Aug. 2017 – Present*

NIIT University – *Bachelor of Technology in Electronics & Communication Engineering* Rajasthan, India
GPA: 9.18/10.0; Secured 100% tuition & accommodation scholarship *Aug. 2012 – July 2016*

Skills

Hardware and Simulation Tools: DTM (Modbus), PLECS, PSpice, Simulink, VHDL, MuPad, Proteus 8

Programming Languages: MATLAB/GNU Octave, SQL, C, C++, Java, Ruby, Bash, PLC LD

Projects

Power System Contingency Analysis
Developed MATLAB code to analyze impact of branch outages for Power System Operation & Controls Course

DNP3, Modbus Labs
Worked on lab assignments with Distributed Test Mangager tool as SCADA Master and configured SEL-451 Protection Control System, SEL-651 Recloser and SEL-3530 RTAC as SCADA slave devices with Modbus and DNP3 protocols.

EV Charger Simulation
Made preliminary design of power electronic circuit of DC EV Charger on PLECS simulation software incorporating non-ideal components. Interfaced MATLAB with PLECS for non-ideal converter duty cycle control, and to calculate specification metrics such as efficiency, ripple

Cognitive Spectrum Sharing in Cognitive Radio Networks
Undergraduate project- Reviewed literature & developed MATLAB simulation of a spectrum sharing protocol for R&D project.

Work Experience

Embedded Systems Engineer, Automatic Video Tracker, Defense Software Delopt Pvt. Ltd.
Aug 2016 – June 2017 Bangalore, India

- **Multiple object detection algorithm R&D**
  - Developed & implemented object tracking algorithms for next version of real time video surveillance product
  - Conducted MATLAB simulations & implemented algorithms on iMX6Q microcontroller in C++

Project Trainee, Communication Systems Group, ISAC Indian Space Research Organization
Jan 2016 - July 2016 Bangalore, India

- **Costas Loop for BPSK Demodulation on Microsemi FPGA**
  - Developed demodulator for satellite wireless communication on an Actel Microsemi FPGA in VHDL
  - Developed submodules- Numerically Controlled Oscillator, PID digital controller, & FIR and IIR digital filters
  - Conducted time-domain MATLAB and Simulink system simulation
  - Tested real time system performance using DSO, DDS

Embedded Systems Intern, Automatic Video Tracker, Defense Software Delopt Pvt. Ltd.
Summer 2015 Bangalore, India

- **Phase Correlation Algorithm Implementation**
  - Implemented phase correlation object tracking algorithm for video surveillance product on Blackfin ADSP-561
  - Refined algorithm to work with smaller L1 memory & process video frames under 40 milliseconds