JOE RYAN

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EDUCATION

Columbia University, The Fu Foundation School of Engineering and Applied Science New York, NY
M.S. in Electrical Engineering Expected Dec 2020
Coursework: Advanced Analog Integrated Circuits, Analog Systems in VLSI, Electrical Power Networks

Beijing Jiao Tong University, School of Electrical Engineering Beijing, CN
B.S. in Electrical Engineering Jun 2019
Coursework: Power Electronics, Power Electronics Device & Application, Photovoltaic Power Generation Technology, Relay Protection of Power Systems
Honor: Outstanding Graduates Award & Excellent Individual in Social Practice & Tri-A Student Scholarship

TECHNICAL SKILLS

Cadence, ADS, SPICE Tools, MATLAB/Simulink, PCB Design/Layout, MPLAB, Microprocessor Application Development, Modbus-TCP/IP Protocol Development

EXPERIENCE

Urban Green Energy Inc. New York, NY
Electrical Engineer Jun 2020-Aug 2020

- Led Patent-Pending Project of Auto Relay Protection System for Wind Turbines from ideas to profitable product, broadening global market and reducing over $150 potential cost per unit
- Designed a Solar Radiation Sensor for next generation 1st Step Weather Station, creating an extra $15 profit for each device
- Collaborated with team members from over 15 different countries and regions

Columbia Laboratory for Unconventional Electronics New York, NY
Research Assistant Sep 2019-May2020

- Designed and simulated a Pulse-Width Modulation driver circuit to control LED lights for EnHANTs project
- Developed and implemented an Energy Harvesting Module for EnHANTs project, cutting down power consumption by 15%, while increasing accuracy of current measurement
- Presented at the ACM Conference on Embedded Networked Sensor Systems and won Best Student Demo Award

Beijing Jiao Tong University, Electric Power Engineering Laboratory Beijing, CN
Undergraduate Research Assistant. Jul 2018-Jan 2019

- Conducted research and developed fundamental units and protection strategies of Micro-Grid
- Employed MATLAB and Simulink to build Micro-Grid model and verify protection strategies

PROJECTS

Micro-Grid Power Quality Monitoring Network Apr 2018-Apr 2019
Project Leader of Creative Experimental Project of National Undergraduate Students

- Implemented power quality data acquisition module, utilizing Proteus to simulate and Altium Designer to design printed circuit board
- Developed Modbus-TCP/IP Protocol and Ethernet Protocols to achieve full duplex data transmission based on Microchip TCP/IP Stack
- Proficient in MPLAB IDE for micro-controller firmware development and lab equipment to debug and test PCB

Advanced Analog Integrated Circuits Course Project Mar 2018-May2018
Design of a Fully Differential Switched Capacitor Amplifier for a 7-bit/5MHz Pipelined ADC

- Used Cadence to design and test a two-stage fully differential telescopic Op-Amp in 0.18um CMOS technology
- Achieved desired functionality with a distinguished Figure of Merit by elaborate sizing

Digital VLSI Circuits Course Project Oct 2017-Dec 2017
Design of an 8-bit Microprocessor core in 90nm CMOS technology

- Initiated use of Cadence suits to design the schematics of each component within microprocessor core
- Created successful layout of completed microprocessor obtaining a DRC, LVS clean verification
- Contributed to ingenious design and sizing resulting in nearly 50% less area and power consumption