# Ronald Roy

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## EXPERIENCE

**NORTHROP GRUMMAN** | Electrical Engineering Intern
May 2020 – Aug 2020 | Rolling Meadows,IL

- Created models for advanced multispectral platforms using C++ and AFSIM scripting
- Conducted research using the JANES database in order to model radar signatures, IR signatures and anti-aircraft platforms
- Produced behavior for chasing targets, switching between sensors modes and independent engagement for multispectral platforms
- Collected data on a AFSIM model using Monte Carlo runs and created documentation according to style guides and internal documentation

**INVENTUS POWER** | Electrical Engineering Intern
June 2019 – Aug 2019 | Woodridge, IL

- Performed voltage, current and impedance testing on PCBs and board to board connectors for battery management systems
- Tested PCBAs to capture waveforms for critical safety mechanisms in order to troubleshoot design and manufacturing errors
- Created a schematic, PCB layout and a BOM for a high voltage transient suppression board capable of handling 150V transients while charging battery packs at 10A and have a discharge rate of .36C
- Created documentation for data fields in QAD and created user defined fields allowing for more detailed reporting using Cyberquery

**KEATS MANUFACTURING CO.** | Quality Control Intern
June 2016 – Sep 2016 | Wheeling, IL

- Produced models of manufactured parts using AutoCAD and Keyence to reference parts of older models and find disparities
- Collaborated in teams to run tests on quality of plating, formation of parts and gauged different lengths and angles of parts
- Coordinated with the shipping department to determine quality issues that arise from shipping parts to customers and found solutions
- Performed and logged routine checks on metal stamping machines to ensure machines were operating correctly

## PROJECTS/LEADERSHIP

**AUTOMATED GEOFENCED DRONE** | Illini Unmanned Aerial Vehicles
April 2019 – Present | Urbana-Champaign, IL

- Created schematics and a BOM for an autonomous drone capable of following a preset flight path and feeding back GPS location and a FPV
- Organized technical training about through-hole and SMT soldering, Altium Designer and I2C protocol for new members

**BEEKEEPING CLUB AT UIUC**
August 2017 - Present | Urbana-Champaign, IL

- Held meetings with corporate sponsors from Common Ground Co-Op and Student Sustainability Committee for club funding
- Organized environmental conservation events such as a "Making Bee Hotels" event and certified the campus as pollinator friendly
- Registering the organization to be a tax-exempt charitable organization with the IRS

## EDUCATION

**UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAGIN**
Bachelor of Science in (Electrical Engineering)
Minor in Computer Science
May 2021 | Urbana-Champagin, IL
GPA: 3.17 / 4.00

## COURSEWORK

**UNDERGRADUATE**
Analog and Digital Signal Processing
Control Systems
Digital Systems Design
Embedded DSP
Solid State Electronics
Electronic Circuits
Fields and Waves
Quantum Mechanics
Computer Systems
Data Structures
Applied Parallel Programming
Senior Design

## SKILLS

**TECHNOLOGY**
Altium Designer • Quartus Prime
MATLAB • Simulink
AFSIM • LTSpice

**PROGRAMMING**
C/C++ • Python
SystemVerilog • CUDA
LC3 Assembly • AFSIM Scripting

## SOCIETIES

Illini Unmanned Aerial Vehicles
***(Director of Hardware)***
Beekeeping Club at UIUC
***(Vice President and Cofounder)***
Association of Data Science and Analytics

## LINKS

LinkedIn:// **ronaldroy13**
Website:// **ronaldroy13.github.io**