# Jessica Lin Kuo

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## EDUCATION

**Binghamton University, Thomas J. Watson School of Engineering and Applied Science**
*Bachelor of Science in Computer Engineering* *Expected May 2021*
Major GPA: 3.4/4.0 | Dean's List: Spring 2019, 2020

## TECHNICAL SKILLS

**Programming Languages:** Java, JavaScript, Python, C, MATLAB, Bare-Metal Programming, Verilog, VHDL
**Software Platforms:** Android Studio, IntelliJ IDEA, Xilinx Vivado, MS Office, Atmel Studio 7.0, LTspice
**Relevant Coursework:** Data Structures and Algorithms, Digital Logic Design, Discrete Math, Signals and Systems

## PROJECT EXPERIENCE

**Develop a mobile app "Music Minder" in Android Studio** **May '20 – Present**
- Program an Android app that saves songs and artists in lists which are input from the user in Java
- Implement RecyclerView and SQLite databases to display and store song and artist input
- Design UI and UX using XML in Android Studio as a personal project

**Built a decimal to binary and hexadecimal converter for Android** **Jun '20 – Jun '20**
- Designed an app for Android to take a decimal value input and output the binary and hexadecimal conversions
- Utilized intents and buttons to display results in separate activities from the main activity
- Created app interface using XML and implemented app using Java

**Created an infix to postfix notation converter to solve mathematical equations in C** **Apr '20 – Apr '20**
- Coded a calculator to solve equations involving parentheses, addition, subtraction, multiplication and division
- Converted input equation from infix to postfix notation using data structures in C
- Solved converted equation with data structures and output result to terminal and external text file

**Built a theremin using operational amplifiers, capacitors, and photo sensors** **Nov '19 – Dec '19**
- Designed a circuit to simulate the function of a theremin by building an op-amp oscillator and voltage divider
- Simulated a digital circuit in LTspice to ensure proper function; tested using oscilloscopes and power sources
- Researched components to simplify the original design which eliminated the need for multiple operational amplifiers

**Programmed robot 3Pi to solve a maze using directional bias** **Mar '19 – May '19**
- Designed an algorithm to measure distance to an X/Y coordinate for robot movement
- Programmed the robot 3Pi to solve a randomly generated maze using directional bias
- Created a general-purpose processor using RTL level components and machine language
- Controlled the robot using a general-purpose processor and an ATmega compiler

**Designed a "Game of Binghamton" as an adaptation to a board game** **Feb '19 – Feb '19**
- Participated in a 24-hour long hackathon organized by Hack BU to code an online game using Python in a team of 4
- Simulated random dice rolls and event generators to create an adaptation of a popular board game, The Game of Life
- Coded the application to enable a player to complete several randomly selected tasks to advance through the game

## LEADERSHIP EXPERIENCE

**Institute of Electrical and Electronics Engineers (IEEE)**, **Binghamton University**
*Social Coordinator:* *May '19 – Present*
- Oversee social events for IEEE general body members; advertise events through social media posts
- Improve visibility through the club Instagram account with a current increase in followers from 25 to 120

*Electrical Team Lead:* *Aug '19 – Oct '19*
- Led a 7-person team for the Binghamton University Rover Team where student engineers build a Mars Rover
- Designed, integrated, and implemented circuits to supply and maintain power to various systems of the Rover

*Arm Team Member:* *Jan '19 – May '19*
- Researched and built a SCARA arm made of linear actuators which was then mounted onto the Rover
- Tested functionality of arm motors using signal generators, power supplies, and oscilloscopes

*Electrical Team Member:* *Sep '17 – Oct '19*
- Collaborated with other engineers to design power control and battery management systems
- Tested motor drivers and motors to optimize battery life on the Rover

**Digital Logic Design, Thomas J. Watson School of Engineering and Applied Science**
*Undergraduate Course Assistant* *Aug '19 – Present*
- Teach digital logic concepts to 100 students; held office hours and exam review sessions for struggling students
- Debug approximately 100 students' Verilog programs and addressed FPGA hardware integration problems