

# Guruganesh Rajaraman

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Permanent Resident (Green Card)

## Objective

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Seeking a full-time job opportunity in solving interesting problems in the field of electrical engineering.

## Education

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**Georgia Institute of Technology | Atlanta, GA**  
Bachelor of Science in Electrical Engineering

*January 2018 – Spring 2021*

**Georgia State University | Atlanta, GA**  
Transfer with 87 Credit Hours

*August 2016 – December 2017*

## Skills

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**Programming:** Java, Python, C, C#, JavaScript, MATLAB

**Hardware:** Raspberry Pi, ARM MBED Microcontroller, Launchpad, FPGAs, oscilloscope, logic analyzer, soldering, PCB mounting, electrical wiring, power systems, programmable logic controller

**Software:** Android Studio, Altera Quartus II, NI LabVIEW, Inventor, GitHub

**Communication:** Design proposals, technical reports, instruction manuals, presentations (large and small audiences)

**Languages:** Tamil (native), English (fluent), Spanish (intermediate)

## Projects

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**Automated Cold Brew Coffee Machine**

*Semester 2021*

**Project for Senior Design Capstone**

*An interdisciplinary team focusing on the creation of a prototype device to streamline the process of cold brewing into a simpler automated system.*

- Tasked with the ideation of the electrical subsystem of the device, responsible for power analysis and selecting sensors and motors.
- Aided in the documentation and maintenance of weekly status reports, and CAD design of the mechanical subsystem.

**DE2BOT Navigation**

*Semester 2020*

**Project for Digital Design Laboratory**

*A team-based competition, in which the objective was to use sonar sensors to navigate a bot to a designated area in the shortest time possible.*

- Designed the algorithm to filter the sonar data in MATLAB and converted it to assembly language.
- Assumed the leadership position for the team, tasked with documentation, organization and major debugging, resulted in a third-place finish in the competition for fastest time to objective.

**Game Design C++**

*Semester 2019*

**Project for Engineering Software Design**

*Tasked with individual project, in which the objective was design a multi-stage entertaining game in C++*

- Programed a multi-stage game, in which the player progressed through each level by completing a score objective. The game was created using CLion and image animation.

**2D Truss Analysis Program in MATLAB**

*Semester 2017*

**Project for Computing Fundamental for Engineers**

*A group project, in which we were tasked with creating a program in MATLAB that would be capable of solving 2D Truss problems by taking in user inputs for the forces.*

- Generalized the solution to any 2D truss, using excel to import the user inputs which were then used to calculate the forces acting on the Truss at any node.
- This program reduced errors in hand calculation for the forces, the program was submitted to a MATLAB competition on campus and received 2<sup>nd</sup> place for best academic use of MATLAB.