

# Ramsubramanian Chinnakannan | 107119099

B.TECH. IN ELECTRICAL AND ELECTRONICS ENGINEERING

NATIONAL INSTITUTE OF TECHNOLOGY TIRUCHIRAPPALLI



## EDUCATION

PROGRAM	INSTITUTION	% / CGPA	COMPLETION
BTech	National Institute of Technology Tiruchirappalli	7.32/10	2023
XII (CBSE)	Delhi Public School, Doha	85.6%	2019
X (CBSE)	Delhi Public School, Doha	10/10	2017

## PROFESSIONAL EXPERIENCE

**Jersey Industrial Company, Summer Internship trainee**

June 2021 - July 2021

- Undergone an engineering training program at Jersey Industrial Company, Qatar.
- Initial tasks involved design, drawing and commissioning of custom control panels.
- Tools used are Autocad, PLC SCADA programming.

## PROJECTS

**Constructing a Hack Computer**

November 2021 - December 2021

- Built and unit-test a chip-set, a CPU, and a typical computer architecture. Developed a modern software hierarchy consisting of an assembler, a virtual machine, a mini operating system, and a compiler for a simple object-based language.

**Heart rate estimation using FPGA implementation of Fast Fourier transforms**

October 2021

- Designed a 1024-point pipelined radix-4 FFT processor and implemented it on a Xilinx Virtex-7 FPGA.
- The 1024-point FFT processor, designed using Verilog HDL, is used to estimate the Heart Rate from the real time PPG signal.

**Design of Low Powered Counter using Digital Switching Circuits**

September 2021

- Designed a 4-bit counter using single-phase Flip Flop with Self Controllable Voltage level method.
- The VLSI circuit with low power is designed to minimize the power consumed, chip size, and improve performance.
- Tools used are Cadence Virtuoso and 180nm Technology.

**Control Circuitry for Washing Machine**

July 2021

- Modelled the control circuitry of a washing machine with a multi-mode selection system, using an ATmega16 microcontroller.

**Distributed Energy Resource Monitoring and Optimization**

May 2021

- Performed market analysis to identify pain points in energy management systems for efficient energy utilization efforts and gathered relevant datasets for specific use-cases.
- Created an Energy Signature tool to monitor power draw against outside air temperature using linear regression and developed a program that monitors and controls HVAC setpoints, DER scheduling, and indoor load shedding to maximize energy efficiency and lower energy tariffs.
- Created an insight report comparing several models and their energy conservation performance. Tools used are SQL, Python (Libraries: Pandas, Numpy, Matplotlib).

## POSITIONS OF RESPONSIBILITY

**Public Speaker and Trainer, Toastmasters**

February 2020 – Present

- Member of the Toastmasters International club of the college, hosted and gave multiples speeches, presentations, and evaluations.
- Served as the Sergeant At Arms at the club between May 2020 and May 2021, was responsible for initiating, conducting and smoothly operating every weekly meeting.

**Marketing Manager, Marketing Team, Festember**

March 2020 - Present

- Took charge as Deputy Marketing Manager at Festember '20, the annual cultural festival of NIT Trichy.
- Collaborated with the team to work towards contacting various companies and acquiring sponsorships for the festival through cash, in-kind donations, and/or service sponsorships. Ensured proper completion of deliverables and spearheaded branding efforts to maintain relationships.

**Coordinator, Content for Pragyam Team, Pragyam**

September 2020 - Present

- Worked as a Coordinator of Content for Pragyam Team of Pragyam '21, an international techno-management festival of NIT Trichy.
- Managed and contributed towards digital and written content in the form of articles on important, diverse and exciting technical topics such as Space Tourism to maintain an innovative Pragyam blog and website. In-charge of all our social media handles.

## RELEVANT COURSEWORK

- |                       |  |                                  |
|-----------------------|--|----------------------------------|
| • Embedded Systems*   | • Computer Architecture and Organization | • Network and Linear Systems     |
| • Internet of Things* | • Linear Integrated Circuits             | • Analog and Digital Electronics |
| • VLSI Design         | • Digital Signal Processing              | • Data Structures and Algorithms |

## SKILLS

- Programming** : C, C++, Python, Verilog
- Certifications** : Machine Learning - Stanford (Coursera), Build a Modern Computer: Nand to Teris Part 1 & 2 - Hebrew University (Coursera)
- Other Tools / Frameworks** : LTSpice, MATLAB, AutoCad, TensorFlow, UiPath

## EXTRA-CURRICULAR ACTIVITIES

- Media and Publicity Coordinator** for Sportsfete '19- the inter department sports fest organized by NIT Trichy.
- Completed till **Grade 4** in **Acoustic Guitar**, with Merit, from Trinity College London.

\* - Ongoing Courses