

# Parth Sarthi Sharma

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## EDUCATION

### CORNELL UNIVERSITY

MENG IN ELECTRICAL AND  
COMPUTER ENGINEERING

Final Semester  
Cum. GPA: 4.0

### AIACTR

B.TECH IN ELECTRONICS AND  
COMMUNICATION ENGINEERING

2015 - 2019

Overall CGPA: 8.3 / 10

## LINKS

Github:// [ParthSSharma](#)  
LinkedIn:// [parthssharma](#)

## COURSEWORK

### GRADUATE

ECE 5725: Design with Embedded  
Operating Systems  
ECE 4760: Digital Systems Design Using  
Microcontrollers  
ECE 4320: Integrated Micro Sensors and  
Actuators

### UNDERGRADUATE

ETEC-401: Embedded Systems  
ETEC-305: Microprocessors and  
Microcontrollers  
ETCS-204: Computer Organisation and  
Architecture  
ETCS-209: Data Structures and  
Algorithms

## SKILLS

### Hardware Platforms

RaspberryPi Pico • PIC32 • Arduino •  
RaspberryPi 3B+/4 • NodeMCU

### Programming Languages

C/C++ • Python • JAVA

### Tools

MATLAB • MIT App Inventor •  
Processing • Gurobi • OpenCV •  $\LaTeX$

### Areas of Interest

Embedded Systems • Internet of Things •  
MEMS Devices

## WORK EXPERIENCE

### COLLECTIVE EMBODIED INTELLIGENCE LAB, CORNELL UNIVERSITY | GRADUATE STUDENT RESEARCHER

Jun 2021 – Current

- Working on software optimization of Martha (HSI rover)

### CORNELL UNIVERSITY | GRADUATE TEACHING RESEARCH SPECIALIST

Jan 2021 – May 2021

- GTRS for ECE 4670 (Digital Communication System Design)

### INDIAN INSTITUTE OF TECHNOLOGY, DELHI | RESEARCH ASSOCIATE

Jun 2019 – Sep 2020

- Worked on Genetic Algorithms for energy conservation in power grids under Prof. Ashu Verma
- Worked on hacking CAN Bus and disrupting data under Prof. B. K. Panigrahi

### INDIAN INSTITUTE OF TECHNOLOGY, DELHI | INTERN

Jun 2018 – Aug 2018

- Worked on "Energy Efficient Buildings" under Prof. B.K. Panigrahi and Prof. Ashu Verma
- Successfully developed an integrated light automation system (for HVAC) with 4 ambient zones

## RESEARCH

- Patents:

Ashu Verma, B.K. Panigrahi, Sumedha Sharma, Parth Sharma, "Optimal Building Energy Management System" (Indian Patent Application No.: 202011051401)

- Publications:

"A Cyber-Secure Distributed Control Architecture for Autonomous AC Microgrid," in IEEE Systems Journal, doi: 10.1109/JSYST.2020.3020968.

"Development of a Cost-effective Color Pattern-based Security System," 2019 6th International Conference on Computing for Sustainable Global Development (INDIACom), New Delhi, India, 2019, pp. 988-991.

"Coin Detection based Mobile Charging System," 2019 6th International Conference on Computing for Sustainable Global Development (INDIACom), New Delhi, India, 2019, pp. 60-63.

"Localisation of License Plate and Character Recognition Using Haar Cascade," 2019 6th International Conference on Computing for Sustainable Global Development (INDIACom), New Delhi, India, 2019, pp. 971-974.

## PROJECTS

Working on the RaspberryPi Pico (MEng Project)

Rescue Robot: Scouting Owl

Voice Controlled Dino Game

Multi-Pit Cantilever Biosensor

High frequency AC switching using TRIACS

Implementation of Alexnet for self-driving car (Major)

Hand Motion Controlled Quadpod Robot (Minor)