

# Parth Sarthi Sharma

<https://parthssharma.github.io/>

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## EDUCATION

**CORNELL UNIVERSITY**  
MENG IN ELECTRICAL AND  
COMPUTER ENGINEERING  
Jan 2021 - Dec 2021  
Cum. GPA: 4.04

**AIACTR**  
B.TECH IN ELECTRONICS AND  
COMMUNICATION ENGINEERING  
2015 - 2019  
Overall CGPA: 8.3 / 10

## LINKS

Github:// ParthSSharma  
LinkedIn:// parthssharma

## COURSEWORK

### GRADUATE

- Design with Embedded Operating Systems
- Digital Systems Design Using Microcontrollers
- Power Electronics
- Integrated Micro Sensors and Actuators

### UNDERGRADUATE

- Embedded Systems
- Microprocessors and Microcontrollers
- Computer Organisation and Architecture
- Data Structures and Algorithms

## SKILLS

- Experience with: MISRA C • Version Control • Microsoft Office
- Worked with: Eclipse-based IDEs • Git • Jira • Polarion
- Skilled with various 8-, 16-, & 32-bit microprocessors from TI • Microchip • RaspberryPi • Arduino
- Working knowledge of Linux and Bash
- Familiar with digital multimeters, oscilloscopes, and logic analyzers

## PROJECTS

Working on the RaspberryPi Pico (MEng Project)  
Rescue Robot: Scouting Owl  
Voice Controlled Dino Game  
COVID-19 Social Distance Enforcing Robot  
High frequency AC switching using TRIACS  
Hand Motion Controlled Quadpod Robot (Minor)

## WORK EXPERIENCE

### OCULII CORPORATION | SOFTWARE ENGINEER II

Jan 2022 – Current

- Developing and designing embedded C firmware for FMCW radars
- Design, code, and document new and legacy embedded firmware features for ARM based TI microcontrollers
  - Bringup and optimization of Ethernet and Automotive Ethernet stack on AM273X
  - SBL migration for AM273X and AWR2944
  - Development of custom feature for OEMs with a reported 40% time optimization
- Spearheaded the development of end-to-end multi-frame datapath
  - Architect, implement, and test first generation bash scripts for compilation and chaining of datapath modules
  - Responsible for development and validation of increase in number of detections by 6000%.
- Bringup and validation of Valens SerDes technology for CSI2 based data transmission
  - Study and document the feasibility and advantages of said system over existing one
  - Worked closely with a team of internal and external engineers for design requirements and implementation

### CEI LAB, CORNELL UNIVERSITY | GRADUATE STUDENT RESEARCHER

Jun 2021 – Current

- Worked on the development of a human scale inflatable (HSI) rover called Martha in collaboration with a hardware team.
- Redesigned the pre-existing pulley architecture and software to solve the problem of overshooting.
- Successfully optimized the preexisting code-base to reduce the memory usage of the rover by 60%.

### 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 automation and optimization of a remote HVAC control system
- 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.