

# NEEL GANDHI



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## EDUCATION

### Carnegie Mellon University (2018-2022)

Bachelor of Science in Electrical and  
Computer Engineering

Minors in Biomedical Engineering and  
Computer Science

GPA: 4.0, Dean's List

#### Relevant Coursework (Current\*)

15-213 Computer Systems

15-210 Parallel/Sequential Algorithms

18-240 Digital Systems Design

10-301 Machine Learning\*

15-462 Computer Graphics\*

42-688 Neural Engineering

15-150 Functional Programming

15-122 Fundamentals of CS

## SKILLS

#### Programming Languages

Python, C, MATLAB, Java, SML,

Assembly, Mathematica, HTML/CSS/JS

#### Technologies

Google Cloud SDK, Android Studio

(Basic), Robot Operating System (ROS),

Flutter (Basic), Unity (Basic)

## HACKATHONS

**TartanHacks 2019** – Finalist and  
Facebook "Social Impact" award

**PennApps 2019** – Goldman Sachs  
award

**Hack This. Help Kids. 2018** – Finalist

**HackCMU 2018** – 2nd place for  
Bloomberg social good award

**SteelHacks 2019** - 4th place

## ACTIVITIES

**RoboClub** – Data collection for object  
detection models, trajectory, and  
electronics for Tartan Autonomous  
Underwater Vehicle team.

**Business Technology Group** –

Backend developer for club's first  
website, using AWS and flask.

**Science Olympiad** – Circuit Lab exam  
writer for CMU's tournament.

## EXPERIENCE

### Google Shopping Intern

Google, Inc. | Virtual Software Engineering Internship | May-Aug 2020

Developed a product cataloging platform to connect customers with local businesses  
impacted by COVID-19.

- Utilized Google Vision AI to create a seamless interface that automatically tags and  
classifies products from images uploaded by a business owner and allows customers to  
reverse image search for those products in the catalog (OCR, label and object detection,  
product image search).
- Completed entire development process: Proposing the project, writing design docs,  
implementation, design reviews, and launching the product on Google Cloud.
- Full Stack development with Google Cloud App Engine, Google Cloud Datastore, Java  
Servlets, and HTML/CSS/JS.

### Undergraduate Researcher

Carnegie Mellon University | Pittsburgh, PA | Feb 2019-May 2020

Worked in the Biomedical Functional Imaging and Neuroengineering Lab researching on brain  
computer interfaces (BCI).

- Applied EEG to detect and utilize motor-related brain signals that could be used to  
control a robotic arm.
- Developed a MATLAB-based software to stream/process EEG data to perform BCI tasks.

### 15-210 Parallel Algorithms TA

Carnegie Mellon University | Pittsburgh, PA | Aug 2020-Present

Teaching Assistant for Parallel and Sequential Data Structures and Algorithms.

- Lead recitations, hold office hours, and grade homework assignments.
- Topics include asymptotic analysis, probability theory, parallel algorithm design, graph  
theory, dynamic programming, hashing, and concurrency.

## PROJECTS

### We Have A Car (Mini Autonomous Car) Build18 Hardware Hackathon 2020

- Utilized a ZED Mini depth camera, lidar, and Jetson Xavier to build a mini autonomous car  
that performs Simultaneous Localization and Mapping (SLAM) of an unknown  
environment.
- Worked primarily on the lidar and Hector SLAM, a ROS package that performs SLAM with  
lidar, as well as the mechanical construction of the vehicle with VEX parts.

### Hide.Me (Steganography Messaging) CS 15-112 Term Project

- Implemented various steganography algorithms to encode and encrypt secret data inside  
images, all within a messaging application created using python sockets.

### CMU Postal Services but better Build18 Hardware Hackathon 2019

- Collaborated with a team of 5 to design a package sorting and delivery system that  
utilizes computer vision with OpenCV, SQL, and LED indicators to improve mailroom  
solutions.

### Lab.Me (AR Chemistry Lab) TartanHacks 2019 award winner

- Designed an augmented reality chemistry lab with Unity and Vuforia engine, aimed  
towards providing science lab education to the underprivileged.

### Build.Me (Hand-gesture CAD) SteelHacks 2019 award winner

- Built an alternative CAD modeling software that uses hand gestures to create 3D objects  
with a Leap Motion controller and Unity.

### Mula. PennApps 2019 award winner

- Made an app with Flutter that uses sentiment analysis of news articles to predict future  
stock prices.