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

MHacks 2020 – Facebook "Best Hack Brings the World Closer Together"
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

ACTIVITES

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

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.

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.

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.