

# CHIRAYU JAIN

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## Education

### Northeastern University

Bachelor of Science in Electrical Engineering

Boston, MA  
May 2021

- Overall GPA - 3.637, Major GPA - 3.886
- Coursework - Electronics, Circuits and Signals, Embedded Design, Differential Equations, Networks, Electronic Design, Algorithms, Linear Systems, Engineering Capstone, Power Electronics, Noise & Stochastic Processes

## Experience

### Micro-Leads

Electrical Engineering Co-op

Somerville, MA

January 2020 - June 2020

- Designed PCB, enclosure, and charging system for data collection from an animal's spinal cord implant with bluetooth
- Manufactured wireless charging coils and ran tests to optimize for charging speed and battery health
- Soldered proprietary microchips and ran thermal cycle testing on PCBs to ensure functionality at extreme temperatures
- Modeled 3D printed molds and tools used for the manufacturing of HD64 spinal cord stimulators
- Designed PCB and enclosure interfaced with an external pulse generator to an implanted spinal cord stimulator

### Draper Laboratories

Electrical Engineering Co-op

Cambridge, MA

January 2019 - August 2019

- Reverse engineered and redesigned temperature control unit for the test of PIGA accelerometers
- Designed and ran control software for the recalibration of high precision tiltmeters using MATLAB and LabVIEW
- Developed a signal management and visualization tool using MATLAB
- Designed cables for communication between flight software and sensor control
- Programmed productivity tools that enabled all stakeholders to identify problems that required immediate action

### First Year Engineering Learning Center

Mentor

Boston, MA

January 2018 - Present

- Host 1-on-1 lessons to teach students Solidworks, Arduino, Matlab, C++, soldering, and fabrication
- Manage all CAD model files for Cornerstone of Engineering students and help redesign for optimal manufacturing
- Run and troubleshoot all 3D printers, laser cutters, and CNCs

### Paintants Studio Makerspace

3D Printing Engineer

New York, NY

July 2016 - Present

- Researched, designed and built a 1m x 1m x .2m 3D printer to create art pieces using silicone based plastics
- Constructed a CMYK 3D printer head for manual printing in full color and gradients

### Cooper Union Summer STEM

Teaching Assistant

New York, NY

July 2018 - August 2018

- Guided 16 ESL high school students through the engineering design process to build kinetic sculptures
- Created and taught lessons on Arduino, CAD, 3D printing, laser cutting, and technical presentations

### Fat Cat Fab Lab

Fabrication Intern

New York, NY

February 2017 - August 2018

- Created modification for the Ultimaker 2+ printer which enabled it to print while being raised up a railing
- Trained lab members on printer's enhanced capabilities and how to sustain maintenance of the equipment

## Projects

### PlantPod

July 2020 - December 2020

- Multi-plant growing system with automated control capable of spectral imaging for efficient and sustainable farming
- Created a mobile app to collect historical data from various sensors for monitoring plant health and growing conditions

### One Handed Xbox Controller

September 2019 - December 2019

- Worked directly with a client with a transradial amputation to design the controller specifically around his needs
- Designed the controller and internal electronics to send controller inputs directly to an Xbox One console or PC

## Skills

**Software** - Altium, KiCad, DipTrace, MATLAB, LabVIEW, C++, Python, Arduino, Bluetooth, AutoDesk Inventor, AutoCad, SolidWorks, Fusion 360, OrCAD, LTspice, PSpice, Microcontrollers, UNIX, HTML, CSS, G-Code, Microsoft Office

**Makerspace** - 3D Printer, Laser Cutter, CNC, CAM, Oscilloscope, Soldering, Reflow Oven, Vacuum Chamber, Power Tools,

**Languages** - Hindi - Fluent