# Vishnu Banna

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## EDUCATION

**Purdue University**, West Lafayette, IN — Anticipated May 2022
Major: Computer Engineering — GPA: 4.0/4.0

## TECHNICAL SKILLS

- Programming Languages: Python, C , and MATLAB
- Other Technologies: LabVIEW
- Relevant Courses: Advanced C programming, Basic Circuit Design and Measurement

## RELEVANT EXPERIENCE

**Hardware Engineering Intern**, Dialog Semiconductors — July 2019 – August 2019

- Collaborated with Circuit Design and Testing Engineers to convert commonly used LabVIEW programs into python command line programs in order to increase the quantity and speed of tests that can be run at a single time
- Learned about the engineering process and how it could be used to systematically design modular hardware and software tools that could be easily repurposed for new projects, allowing teams to save time and money

**EPICS project: MOBI**, Purdue University — August 2018 – May 2019

- Collaborated and lead members from various majors to develop a working braille e-reader
- Directed the Development of Code and Circuitry for a device that tested braille pins up to 10000 cycles, allowing designers improve braille pin design quickly and speed up product development
- Designed and Implemented an image processing system using OpenCV, capable of detecting pin failure and ending tests in order to save time, and enable further automation of the testing process

## PERSONAL PROJECTS

**Stock Trading Application** — May 2019 – present

- Working with a friend to develop a tool that can automate stock trading in python by using various price indicators to detect trends and provide buy, sell, and hold signals
- Used TensorFlow API to make a Multi Perceptron Neural Network and basic Recurrent Neural Network that attempted to predict future stock prices and trends using current market data
- Used Python and Pandas to graph data and look for correlations that could be programmed into a trading strategy and automated back testing of strategies for up to 2000 days of previous data

**Personal Machine Learning Research** — May 2019 – Present

- Programed neural networks, like the convolutional network, from scratch to gain a better understanding of how neural networks function mathematically and how they can be manipulated to improve performance
- Attempting to build an Object localization and detection algorithm from scratch in TensorFlow by utilizing custom models, layers and loss functions
- Attempting to build my own object detector neural network by exploring modern network architectures and how they strategically use layers and losses to manipulate inputs and gain accurate results

**Intelligent Knee Brace** — July 2019 – Present

- Leading team members in California to build a knee brace to help rehabilitating athletes speed up recovery by looking for abnormalities in the movement
- Communicating with medical professionals to learn about knee injuries that occur during and after rehabilitation in order to develop systems that can monitor these issues more accurately in a broader range of people

## INTERESTS AND HOBBIES

- Began SoundCloud and YouTube channel to sing and produce my own music