

# Pradyun Narkadamilli

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## Education

### University of Illinois, Urbana-Champaign,

exp. 2025

B.S in Computer Engineering

**Relevant Coursework:** Digital Systems Lab (in progress), Analog Signal Processing (in progress), Thermodynamics, Quantum Physics, Computer Systems and Programming, Computational Linear Algebra, Physics E&M, Calculus III  
**GPA:** 4.0/4.0

## Professional Experience

### Student Researcher, WaggleNet

2021 – Present | Champaign, IL

- Created datalogging software to aggregate data from independent Raspberry Pi Zero data collection nodes
- Designed data schema and implemented data pipeline using AWS Cognito user auth and Dynamo NoSQL database
- Spearheaded 7-person team designing computer vision software for low-power motion tracking with OpenCV/Tensorflow

### Captain, VEX Team 3304R

2019 – 2021 | Dublin, CA

- Designed robot based on the constraints of game - was primary builder and programmer
- Developed motion control software with PID and Odometry algorithms using OkapiLib C++ libraries
- National and State Championship Qualifiers as first year team of 5 people

## Project Work

### Vital

- Uses soil moisture, temperature, and humidity data to inform gardeners of plant health
- Collected environment and soil data using Arduino, passed data to a Raspberry Pi to sync data with Firestore database
- Interfaced and visualized this data with a website, Android App, iOS app, and Google Assistant Routine

### Kami

- Uses Machine Learning to scan and summarize text documents with cross-platform support
- Uses PyTesseract OCR engine to read text from images, then uses NLTK model to summarize text
- Leveraged Angular.js framework to make a web application, and Flutter to make a cross-compiling native application
- Set up/administrated EC2 Linux server on AWS with Nginx and Gunicorn to serve backend Flask API

## Skills

### Programming Languages

Python, Java, JavaScript, Rust, C, C++, SQL, Assembly (LC-3)

### Programming Frameworks

React, Flask, Next.js, Actix-web, PlatformIO, OpenCV

### Tools/Platforms

Firebase, AWS, Linux Systems, KiCAD, Altera Quartus, Git

## Awards

### Dean's List, Grainger College of Engineering

Ranked within top 20% of students in the Grainger College of Engineering.  
*Fall 2021 - Present*

### Winner, Samsung Solve for Tomorrow, Samsung

2020

Devised an information net that took temperature, smoke, and humidity data from arduino 'nodes', then used ML to detect/predict the path of a fire. Earned \$100,000 in prize.

### National Quarterfinalist, VEX Robotics CREATE US Open

2019

Reached the Round of 16 at VEX national championships among 11,000 US-based VEX teams.