

# Rithvik Bhogavilli

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## EDUCATION

### University of Illinois, Urbana-Champaign

May 2024

*B.S. in Computer Engineering*

Urbana, IL

**Coursework** : Control Systems, Data Structures, Probability with Engineering Applications, Intro to Rocketry, Linear Algebra, Intro to Computing/Electronics, Computer Systems Programming, Analog Signal Processing

## EXPERIENCE

### University of Illinois CyberGIS Center

Fall 2021

*Researcher*

Urbana, IL

- Scripted helper tools for maintenance of custom cyberGIS framework.
- Developed Ansible playbooks for Docker image version control and virtual machine management.
- Developed JupyterLab extension to install Jupyter kernels when referenced in notebook.

### University of Maryland MIND Lab

Summer 2020

*Summer Intern*

College Park, MD

- Developed user interface in JavaScript for tracing spread of COVID-19 using Mapbox and ArcGIS.
- Experimented with algorithms for removing noise from GPS data using Turf.js and road fitting APIs.

### Efabless.com, Open Circuit Design

Summer 2020

*Summer Intern*

- Optimized the performance of Magic, an Electronic Design Automation tool for VLSI design.
- Implemented efficient data structures and hashing algorithms and quantified performance with Linux perf.

### Dreamport, US Cyber Command

Summer 2019

*Summer Intern*

Columbia, MD

- Developed and optimized machine learning algorithms for facial recognition with PyTorch.
- Built a private cloud using VMWare for use by researchers. Maintained a Linux and Windows lab.

## ACTIVITIES AND HONORS

### Illinois Space Society, Avionics

- Expanding state estimation of rocket to include spatial orientation using a Kalman filter.
- Integrated and debugged High-G IMU logging on custom avionics suite.

### FIRST Robotics Competition Team 4099, Controls Lead and Current Mentor

- Designed and programmed robot subsystems teleoperation and autonomous movement in Kotlin.
- Developed custom path following using PID and motion profiling for a swerve drivetrain.
- Placed second in the world out of over 2700 teams.

### FIRST Tech Challenge Team 13100, Mentor

- Managed a team of 10, led workshops on programming and strategic design skills.
- Implemented odometry and programmed path planning for autonomous routines in Java.

### Computer Team, Captain

- Conducted cybersecurity and competitive programming workshops for other members.
- Placed top 10 in Capture the Flag (CTF) competitions like CSAW RED, and picoCTF.
- Placed in top 50 teams nationally in CyberPatriot and won Maryland Cyber Challenge twice.

### HackIllinois 2022, John Deere Community and Sustainability Winner

- Designed real-time interactive map to alert farmers of crop disease outbreaks in field using Mapbox.
- Trained TensorFlow Lite model to detect diseases in cassava plant for use on Google Edge TPU.

## SKILLS

**Languages** : Python, Java, Kotlin, MATLAB, JavaScript, TypeScript, Rust, C, C++, Arduino, Bash

**Tools** : Linux, Git, EagleCAD, React, NodeJS, Flask, Electron, OpenCV, PyTorch