

# Maya Wallach

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## PERSONAL

**Date of Birth:** September 10, 2005

**Place of Birth:** Richmond, VA

## EDUCATION

**Michigan State University, East Lansing, MI**

BS Physics

*Aug 2021 - May 2024*

Graduated with Honors

## RESEARCH/WORK EXPIRECE

**FermiLab, Batavia, IL**

*May 2023 - present*

**Student Researcher**

- Use Machine Learning models for Identifying/Classifiying tracks in a bubble chamber
- Faster R-CNN used for identification and DCGAN for data generation
- Project page: [here](#)

**IRIS-HEP @ Davidson College, Davidson, NC**

*May 2022 - August 2022*

**Undergraduate Fellow**

- Track Classification @ AT-TPC using Unsupervised Learning methods
- Presented at the annual Division of Nuclear Physics meeting in 2022

**Los Alamos National Lab, Los Alamos, NM**

*September 2021 - September 2022*

**Undergrad Research Assistant**

- Use computational methods to simulate the k-L turbulence and Rayleigh-Taylor models

**Facility for Rare Isotope Beams, East Lansing, MI**

*August, 2020 – present*

**Undergrad Research Assistant**

- Predicting unstable particle radii using computational methods

**Michigan State University**

*June 2020 – August 2020*

**High School Physics Intern**

- Studied Zeeman effect using Python and derivation

## PROJECTS

### KlaudOS

Klaud themed hobby operating system

- Double Stage bootloader
- Klaud file system
- Interrupts/FPU support
- Interactive shell with [commands](#)
- Languages: C and x86 asm
- Project page: [here](#)
- Demo video: [here](#)

### Klaud File System

Klaud themed file system

- UNIX like commands (mkdir, cd, ls, etc)
- Based off of FAT file system
- Now supported in in KlaudOS
- Languages: C
- Project page: [here](#)

### KlaudOS Website

The official KlaudOS Website

- HTTP web server in C
- Gives information on KlaudOS
- Languages: C, HTML, CSS
- Project page: [here](#)

### Number Station Identification

A program that identifies number stations

- CNN used for classification
  - Built from scratch (only using NumPy)
- Interactive GUI made with PyQt5
- Languages: Python
- Project page: [here](#)

### Personal Website

Static Portfolio Website

- Languages: HTML, CSS, JavaScript
- Website: [here](#)
- Project page: [here](#)

### Solved CrackMes

A repo of some crackme's I've solved

- Languages: C
- Project page: [here](#)

## SKILLS

**Programming Languages** – Python (5 years), C/C++ (5 years), Bash (1 year), R (3 years), JavaScript (4 years), HTML/CSS (4 years), Rust (1 year),

x86 Assembly (1 year)

**Frameworks** – Pytorch (3 years), Tensorflow (3 years), scikit learn (3 years), OpenCV (4 years)

**Computer Skills** – Linux (Debian and Arch) Operating Systems (4 years), Windows Operating systems (10 years), Git (4 years), Microsoft Office (5 years), LibreOffice (4 years)

**Other** – Ghidra (1 year), Radare2 (1 year), IDA Pro (1 year)