

MARY NANSIKOMBI

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EDUCATION

Oregon State University

GPA 3.72

B.S. in Computer Science(Honors) | Minor in Business

June 2025

- **Relevant Coursework:** Data Structures, Computer Architecture and Assembly Language ,Analysis of Algorithms, Introduction to Security, Operating Systems, Software Engineering Fundamentals
- **Technical Skills:** Python, Java Script, React JS, Tensor flow, Numpy, Node.JS, HTML, CSS, C, C++, Git, Rest API, Agile, CI/CD, ReactJS, Linux, Windows

WORK EXPERIENCE

Agaid Institute(National AI Research Institute for Transforming Agricultural Workforce and Decision Support)

Pullman, WA

Machine Learning Intern

Jun. 2024 - Aug. 2024

- Developed multiple **Deep learning** models through training and validation using a pre trained **Faster Rcn**, **PyTorch**, **TensorFlow**, **Numpy** leading to 86% recall in wheat yield estimation predictions
- Utilized **ML algorithms(SVM)**, optimizers and non maximum suppressors to reduce overlap between predicted wheat bounding box objects thus maximizing accuracy.
- Presented and continued building detection models using RGB imagery data and deployed models via **Gradio App** interface for easier delivery of yield estimation for farmers.
- Developed a custom dataset class to streamline model training preparation and enhanced code reusability through object-oriented programming (**OOP**) principles.

University Housing and Dining Services(Oregon State University)

Corvallis, OR

Community Assistant

Jun. 2022 - June. 2024

- Facilitated collaboration between technical and non-technical departments leading to improved collaboration and streamlined processes in apartment operations.
- Assisted students with maintenance and emergency issues after hours through operations assistance, conflict mitigation and medical assistance leading to increased safety.
- Performed administrative duties such as data entry when allocating apartments to students

CLASS PROJECTS

Operating Systems

- Gained hands-on experience with low-level systems programming through developing and proposing various implementation strategies to effectively solve systems coding projects using C language
- Identified and resolved software bugs through continuous testing, root cause analysis, and research, leading to a 30% increase in efficiency and overall software reliability.
- Implemented data structuring techniques that improved problem-solving efficiency using the right data structures, increasing time efficiency by 30% and optimizing space complexity.
- Developed and implemented client server side technologies using network Rest Api's, Node. js, Php for building web applications and efficient communications with servers.
- Executed sub processes through shell scripting, signal processing, multi threading leading to creation of independent small shells through parallel processing to optimize memory utilization
- Utilized memory management techniques through parallel processing leading to faster encryption and decryption within security implementation exercises
- Developed a spin open close mechanism using semaphores to ensure multi-thread safety
- Ensured proper development of system calls through proper implementation of processes, file management, communication and information maintenance using signal processing
- Separated privilege level for kernel and application ensuring application did not have the privilege level to perform operations outside of its scope level.

Software Engineering Fundamentals

Sep. 2023 - Dec. 2023

- Developed small unit tests in Java script using **Jest** testing the presence and functionality of different features on applications to ensure proper functionality.
- Developed integration tests for feature testing of application features using **Jest** to ensure integrated features worked as expected.
- Developed end to end tests using **Cypress** to test for the functionality of the entire application to ensure all applications features achieved full functionality and deployed via Github pages using CICD

ACTIVITIES & LEADERSHIP

- **Treasurer Adoptive Technology Engineering Network**
- **Public Relations Officer OSU App Club**
- **Robotics Club OSU**
- **InnovationX Participant College of Engineering**

HONORS & AWARDS

Honors Roll

Jan 2022-Present.

Received Honors due to excellent academic performance in Computer Science from freshman year to present

Finalist Innovation X College of Business Competitions

Jan 2024

- Received an honor as a finalist in the InnovationX College of Business Competitions

Regional Award Scholarship Computer Science

Oct. 2023

- Received a quarterly 4000\$ scholarship for excellence and continued education to study Computer Science Program at Oregon State University

Student of The Year

Oct. 2021

- Received an honor to be announced student of the year due to the extraordinary collaboration and communication with high school peers

