**MARY NANSIKOMBI**

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**EDUCATION**

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**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**

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**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 Rcnn, 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**

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**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**

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

**HONORS & AWARDS**

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**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