

MARY NANSIKOMBI

EDUCATION

Oregon State University

Corvallis, OR

Expected Graduation date

Dec 2025

Bachelor of Science in Computer Science

GPA 3.75

Minor in Innovation and

Entrepreneurship

Honors Roll

Winter

2022-present

COMPUTER SCIENCE AND BUSINESS CLASSES

Data structures, Analysis of algorithms, software engineering, Operating systems, Introduction to security, Web development, Statistics for engineers, Introduction to AI, Introduction to Computer Networks, Innovation and new product development, design.

WORK EXPERIENCE

Machine Learning Intern

June 2024-August 2024

Trained and validated custom data sets using TensorFlow, Pandas, numpy leading to efficient wheat predictions in object detection and image processing leading to accuracy rates of 86%

Executed and run multiple models and presented research at the AGAID institute symposium explaining the process of model creation data training, validation, and manipulation.

Utilized sklearn, matplotlib and seaborn for data visualization to show relationships in data such as building confusion matrixes, predictions, and accuracy graphs.

Presented and peer taught other graduate students on how to utilize deep learning models for similar prediction models.

Generated deep learning models through NumPy, Pandas and TensorFlow, faster-rcnn for wheat head detection, yield prediction using wheat imagery

COMPUTER SCIENCE PROJECTS

- 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.

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

- Developed a spin open close mechanism using semaphores to ensure multi-thread safety within an operating system

Implemented unit, integration and end to end tests for web applications leading to 30% better performance of web applications.

- Utilized GitHub and Git for saving changes, merging code, resolving merge conflicts, transferring software packages, and deploying via GitHub pages using CICD to ensure seamless integration especially when making changes.

Utilized agile development in implementing microservices leading to deploying of a health website application working as a microservice in conjunction with another system using elements of CRUD for creating, retrieving, updating, and deleting information on the website

- 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
- Utilized Oracle VM virtual box to create isolated virtual environments for writing and running scripts in C via the Ubuntu Linux operating system using the bash command line interface
- Implemented various data structuring techniques for different algorithmic problems, enhancing problem-solving efficiency by employing appropriate methods, resulting in a 30% increase in time efficiency and improved space complexity.

Business class projects

- Created business product prototypes based on consumer needs and wants through thorough market research leading to launching of products that meet market needs
 - Analyzed factors that lead to failures in innovations from different companies through thorough case analysis leading to development of effective innovation strategies when starting out innovations.
 - Researched startup ventures focused on facilitating international student travel abroad, achieving recognition as a finalist in the prestigious Innovation X Entrepreneurship competition at Oregon state university.
 - 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
- Technical skills: C, Assembly, Thread usage safety, Mutex locks, Semaphores

Web application development

Worked collaboratively with a team of 4 students to develop a web calculator encompassing web stack components.

Demonstrated expert in front end development, improving CSS and JavaScript skills and leveraging tools like Node JS and npm.

Implemented dynamic content using handle bars

Developed proficiency in database management systems specifically Mongo DB and also in synchronous client server communication for efficient data handling using CRUD(Create, Retrieve, Update,Delete)

Gained experience in developing page components such as navigation bars,headers,photo lists while ensuring code reusability.

Currently working on website application that optimizes applying for job applications for students to ensure proper matching of resumes with job descriptions.

Technical skills: Java Script, HTML, MongoDB, Git & Github, Node.js

LEADERSHIP AND WORK EXPERIENCE

Community Assistant

June 2022-to date

Orchard Court Family Housing | Corvallis, OR

- Served as a liaison between different technical and non-technical departments leading to improved collaboration and streamlined processes
- Assisted students with maintenance and emergency issues after hours through operations assistance, conflict mitigation and medical assistance leading to increased safety and satisfaction within student community.
- Performed administrative such as data entry when allocating and relocating apartments to students leading to improved efficiency and accuracy in housing assignments.

Programming languages and technical skills: C, C++, Java script, Python, Java Script, Bash shell scripting, React.js, Nodejs, Cypress and Jest framework, Continuous integration and deployment

Task tracking software: Jira , GitHub, Trello

Miscellaneous: Linux, Windows