**MARY NANSIKOMBI**

**EDUCATION**

*Oregon State University* *Corvallis,OR* Expected Graduation date Dec 2025

**Bachelor of Science in Computer Science                                                  GPA 3.72**

*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, Innovation management, Innovation and new product development, design thinking and problem solving.

**COMPUTER SCIENCE AND BUSINESS PROJECTS**

• Implemented software testing techniques using comprehensive unit tests, integral and end to end tests using Jest and the Cypress testing framework, Continuous integration and deployment thus ensuring 70% of robust software quality and seamless delivery.

• Investigated software projects bugs through research, continuous testing, root cause analysis and troubleshooting resulting in a 30% increase in efficiency and overall software reliability

• Implemented various data structuring techniques for different algorithmic problems, enhancing problem-solving efficiency by employing appropriate methods, resulting in a 30% increase in time and improved 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.

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 led to failure 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

• 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 to ensure proper 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.

• 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

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.

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

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

**AI Intern**

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 creation and manipulations.

Utilized skit learn, 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 grad students on how to create Deep learning models for similar prediction models.

Utilized the pretrained faster-rcnn model for object detection and predictions.

Generated deep learning models through NumPy, Pandas and TensorFlow for wheat prediction structures present in images

• **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 leadinskilg 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.

**Treasurer Adoptive Technology Engineering Network and Public Relations Officer OSU App Club**

Facilitated reimbursements for 20+ students by coordinating with the College of Engineering finance department and the Adoptive Technology Engineering Network, improving financial processes. - Audited and secured the annual budget,

- ensuring smooth financial operations for the club.

Developed termly applications with 25+ students and

assisted new students in connecting with club members,

boosting new student membership.

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