MARIA ANTONETTE VANYA

+1(408) 834-2298 ◇ Halethorpe, MD
contact.vanyalambert@gmail.com ◇ linkedin.com/in/vanyalambert ◇ vanyalambert.vercel.app

OBJECTIVE

Graduate student in Computer Science at the University of Maryland, Baltimore County, with a strong foundation in software development, artificial intelligence, and blockchain systems. Seeking opportunities to apply programming and research skills to develop innovative, data-driven software solutions through internships or research assistantships.

EDUCATION

University of Maryland, Baltimore County (UMBC) *Expected May 2027*
Master of Science in Computer Science

Thiagarajar College of Engineering, Madurai, India *May 2025*
Bachelor of Engineering in Computer Science and Engineering

SKILLS

Programming Languages: Python, Java, JavaScript, C, Solidity
Web Technologies: HTML, CSS, React.js, Node.js, Web3.js
Frameworks & Tools: TensorFlow,Truffle Suite, Figma
Databases: MySQL
Other Tools: Git/GitHub, Metamask, VS Code, Linux

EXPERIENCE

Research Intern May 2024 – Jun 2024
Indian Institute of Science (IISc) *Bengaluru, India*

- Developed and implemented scheduling algorithms in Python, including a metaheuristic Particle Swarm Optimization (PSO), to optimize diffusion furnace operations in semiconductor manufacturing.
- Minimized the Total Weighted Tardiness (TWT) by designing a PSO-based solution that outperformed traditional greedy algorithms in complex scheduling scenarios.
- Conducted a systematic comparative analysis of scheduling performance, using metrics like TWT and makespan to validate the efficiency of optimization strategies.
- Utilized Python libraries such as pandas and NumPy for data modeling, algorithm implementation, and simulation of manufacturing job flows.

Machine Learning Intern Dec 2023 – Jan 2024
Silicon Partner Design Services Pvt. Ltd. *Chennai, India*

- Applied machine learning techniques using TensorFlow to develop and evaluate a prototype smart attendance system based on face recognition.
- Analyzed system architecture and optimized model accuracy through hyperparameter tuning and real-time data validation.
- Gained practical experience in deploying ML solutions for real-world automation, enhancing model interpretability and performance.

PROJECTS

Beyond Banking: Smart Contracts for Automated Financial Transactions.

- Engineered a decentralized e-commerce payment platform on the Ethereum blockchain using Solidity, React.js, and Web3.js to enable secure, intermediary-free transactions.
- Implemented an escrow-based smart contract that secured buyer funds, automating payment release only upon delivery confirmation to mitigate fraud.
- Integrated MetaMask for decentralized, cryptographic wallet authentication, enhancing security by eliminating centralized password management.
- Deployed and rigorously tested the complete transaction lifecycle on the Sepolia testnet, ensuring transparency and auditability through on-chain event logs.

ForestSense: AI-Powered Wildfire Risk Predictor.

- Developed a machine learning application using Python and Scikit-learn to predict the risk of forest fires based on meteorological data.
- Implemented a Random Forest Classifier, training it on the UCI Forest Fires dataset to achieve a predictive accuracy of over 80
- Built an interactive and user-friendly web interface with Streamlit, allowing users to input real-time weather conditions for an instant risk assessment.
- Engineered data preprocessing pipelines and visualized model feature importance to identify key fire risk factors such as temperature and humidity.

Redirection of Fruits and Vegetables. Created a web app using JavaScript, HTML, and C to connect retailers with NGOs to redistribute surplus produce. Reduced food wastage by enabling automated redirection to local communities in need.

CERTIFICATIONS

Awarded the **Prof. B. G. Raghavendra Internship Award in Operations Research (2024)** at IISc Bangalore.

Completed **CS50's Introduction to Cybersecurity** (Harvard University).

Certified in **Developing AI Applications with Python and Flask** (IBM).

Certified in **Software Testing Methodologies** (Infosys Springboard, 2024).

IBM Enterprise Design Thinking Practitioner (2022).

LEADERSHIP EXPERIENCE

Chair, IEEE Computer Society - TCE Oct 2023 – Oct 2024

- Organized and executed monthly technical and social events to engage 200+ students in computing and innovation.
- Coordinated **TechFusion**, a flagship event funded with $1000 by IEEE Students and Young Professionals.
- Led a team to manage workshops, competitions, and an Ideathon, ensuring successful participation and outcomes.
- Directed the 12-hour **PowerAI Hackathon** focused on AI-driven power management solutions.

EXTRACURRICULAR ACTIVITIES

- Ranked **7th at university level** in the global **IEEEXtreme Coding Competition**.
- Participated in national-level hackathons including **Electhon 2023** (Election Commission of India) and **iTech Hackfest 2023** (SAP and PSG iTech), developing ML-based forest fire prediction models.