

MARK AONDOHEMBA ORTESE

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Research Objectives

My research aims to design and develop a customized Deep Neural Network (DNN) model for intrusion detection in the Internet of Everything (IoE) environment. By leveraging the advanced capabilities of Artificial Intelligence (AI), I seek to enhance the detection of security threats and mitigate risks in interconnected systems. The focus is on optimizing the model to handle the unique characteristics of IoE data, such as high dimensionality, heterogeneity, and real-time processing requirements, while improving accuracy, efficiency, and scalability. Additionally, I aim to evaluate the adaptability of the AI-driven system across diverse IoE applications, such as competent healthcare, industrial automation, and smart cities. The research will benchmark the model's performance against existing intrusion detection methods, focusing on key metrics like accuracy, detection speed, and resource efficiency.

Education/Academic Background

B.TECH. Computer Engineering

2022 - present

C. V. Raman Global University, Bhubaneswar, Odisha, India

Research Experiences

Customized Deep Neural Network (DNN) for Intrusion Detection in Internet of Everything (IoE), C.V. Raman Global University

01/2025 - present

- Designing and developing a customized DNN model for intrusion detection tailored specifically to the IoE environment.
- Analyzing IoE data characteristics to optimize the model for better detection accuracy and reduced false positives.
- Conducting ongoing performance evaluations and comparisons with existing intrusion detection systems to assess accuracy, speed, and resource efficiency.
- Implementing data preprocessing techniques, including feature extraction and normalization, to improve the quality and usability of IoE-related datasets for the DNN model.

Machine Learning-Based Disease Prediction Model, C.V. Raman Global University

09/2024 - 10/2024

- Designed and implemented a machine learning-based prediction model to diagnose diseases based on clinical data and patient history.

- Utilized various machine learning algorithms (e.g., decision trees, SVM, or neural networks) to improve prediction accuracy and model performance.
- Preprocessed medical datasets, including handling missing values, feature scaling, and data normalization to enhance model training.
- Evaluated the model's performance using metrics like accuracy, precision, recall, and F1-score, and optimized the model using cross-validation techniques.

Non-research Experiences/Work/Volunteering Activities

Computer Engineer, Service Provider, and Network Admin. (Barnamfel Service Center)

02/2020 – 11/2022

- Provided technical support and troubleshooting for hardware and software issues, ensuring customer satisfaction and efficient service delivery.
- Installed, configured, and maintained computer systems, networks, and peripherals for clients, ensuring seamless operations and system updates.
- Identified and resolved connectivity issues, and performed network upgrades to maintain high levels of performance and security.
- Managed local and wide-area networks (LAN/WAN), ensuring optimal performance, security, and connectivity across client systems.

Technical Skills

- Programming Languages: Python, C, C++, Java (Proficient)
- Data Analysis (Advanced)
- Hardware Design (Intermediate)
- Computational Modeling (Intermediate)
- Machine Learning (Proficient)
- Cryptography (Intermediate)
- Printed Circuit Board (PCB) Design (Advanced)

Awards/Honors/Grants/Fellowships

- Study in India (SII) Scholarship, 2022
- Students Leadership Excellence Award, 2024
- Outstanding Open Source Contributor Award, C.V. Raman Global University, 2024

- Most Valuable Player (MVP) University Football Team, 2023

Languages

- English – C2
- French – A2
- Hindi – B2