KUMOULICA ALLU

9403649166 | kallu@cougarnet.uh.edu | https://www.linkedin.com/in/allukumoulica-178038275/

EDUCATION

Master of Science in Cyber security   *Expected May 2026*
University of Houston, Houston, Texas   **GPA: 4.00**
Coursework: Principles of Cybersecurity, Secure Enterprise Computing, Applied Cryptography, Cybersecurity Risk Management, Network Security, Critical Thinking in Cybersecurity, Project Management Principles

Bachelor of Technology in Computer Science and Engineering (cyber security)   *Apr 2024*
Amrita Vishwa Vidyapeetham, Chennai, India   **GPA: 7.74**
Coursework: Classical Cryptography, Principles of Engineering, Digital Signal Processing, Computer Programming, Cyber Security Essentials, Advanced Programming, User Interface Design, Operating Systems, Database Management System, Multi Media Processing, System Security, DSA, Secure Coding, Computer Networks, AI, IOT, Cyber Forensics, Network Security, Applied Cryptography, Automata Theory and complier Design, Secure Software Engineering, Web Application Security, Distributed Systems and Cloud Computing, Biometrics and Security, Android Application Development, Vulnerability Assessment and Penetration Testing.

WORK EXPERIENCE

Indian Institute of Technology, Research Intern, Tirupathi, India   *Jun 2023 – Aug 2023*
- Applied deep learning-based steganalysis techniques to enhance image noise reduction and improve feature extraction in the MNIST dataset.
- Designed and trained object detection models with Python-based dataset curation, optimizing accuracy for long-tailed instance segmentation.
- Developed realistic 3D image simulations using Blender, facilitating advanced visualization for research applications.

PROJECT WORK

Network Intrusion Detection using LIME   *Apr 2025*
- Developed a ML based IDS using Flask and models like Random Forest and Neural Networks to detect network anomalies.
- Integrated Explainable AI (XAI) to provide interpretable explanations for model predictions, enhancing transparency.
- Built a web application for real-time network traffic monitoring delivering actionable cybersecurity insights.

INSTAGUARD: Adaboost-Based Fake Instagram Profile Detection   *Mar 2024*
- Engineered a machine learning model using the Adaboost algorithm, improving detection accuracy for fraudulent profiles.
- Integrated the model into a REST API, streamlining authentication processes for real-time fake account identification.
- Enhanced verification accuracy, reducing false positives and improving social media security.

Inside Threat Detection of Ransomware Using AutoML   *Nov 2023*
- Processed 115,200 ransomware attack records using Google AutoML, automating feature selection and model optimization.
- Achieved higher classification accuracy, reducing detection time for security threats.
- Enhanced early warning systems by refining hyperparameter tuning strategies.

EXTRACURRICULAR

Forensics Analysis Club and Triage (FACT)

Skill Enhancement Coordinator

Led forensic analysis workshops at Amrita Vishwa Vidyapeetham, providing hands-on training with forensic tools and case studies to enhance technical and investigative skills.

Publication

Author, "A Construction of Smart Grid Authentication and Key Agreement System Using ECC Cryptography" published in the Institute of Electrical and Electronics Engineers

SKILLS

Python, C, HTML/CSS, MySQL, Data Weave, AWS, Haskell, Java, Shell Scripting, Data Structures and Algorithms, Networking, Forensics, Cryptography, OSINT, Web Testing, Log Analysis, Snort, Security Onion, Operating Systems, Wireshark, Kali, SIEM, Digital Forensics, Database Management Systems.

CERTIFICATIONS

MuleSoft Developer 1, Introduction to Cybersecurity.