Abtsega Tesfaye Chufare

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 Github | in Linkedin ⓘ ORCID

Education

Kalinga Institute of Industrial Technology (KIIT)	Expected graduation date: Jun. 2025

B.S. in Computer Science and Engineering | Website

Relevant Courses: Web Software Construction, Big Data, OOP(C++), Security in Software Systems, Algorithms and Data Structures I and II (C++), Computer Architecture, Discrete Mathematics, Cryptography

ALX AFRICA	Expected graduation date: Graduated on March 2023
B.S. in Computer Science and Engineering	Certificate	*GPA: 97/100*

Relevant Courses: Network Security, API Integration, Backend Softwares (Express, NodeJs, Django), Database (SQL, MongoDB)

Experience

**KIIT Research Center	Certificate**	March. 2022 - Present
Research Intern	*Researching, Cybersecurity, Teaming*

- Published a research paper on Cybersecurity Imminent Threats in Higher Education with its Solutions.
- Assisted with maintenance and development of computational tools previously developed in the lab.
- Executed high risk cyber security incidents by working in conjunction with response partners.
- Mentored junior staff, provide development programs for such staff and ensure technical progress of their abilities.

**JP Morgan CHASE CO Virtual Internship	Certificate**	Jun. 2023 - Sep. 2023
Junior Cybersecurity Analyst	*Networking, Cyber Threats, Data analysis*

- Designed and implemented security measures for micro services communication.
- Interfaced with a stock price data feed and setted up system for analysis of the data.

KIIT IOT LAB	Mar. 2023 - Jun. 2023
Privacy Preservation and Security Researcher	*Privacy Preservation, Researching, Publication*

- Developed a Chrome browser extension enhancing user privacy through advanced security features.
- Assessing proposed system changes, as part of configuration management process to determine impact to security designs.
- Ongoing research paper on Privacy Preservation with Vikas.

**Deloitte Virtual Internship	Certificate**	October. 2023
Cybersecurity	*Vulnerability Assesment, Forensic, Phishing*

- Participated in simulated scenarios to enhance incident response skills and crisis management in a virtual environment.
- Utilized industry-standard tools and technologies, such as [mention any specific tools or technologies used].

Canadian Virtual Cybersecurity Society	Mar. 2023 - Jun. 2023
Team Member	*Vulnerability Assesment, TeamWork, Workshop*

- Collaborate with other technical personnel to ensure mitigation of risks to the company.
- Participated in weekly forums, hackathons and meetups hosted in cybersecurity risk mitigation.

Projects

**Portfolio Website	Github**	
Personal Portfolio Website	*HTML, CSS, JavaScript*

- Created a personal portfolio website to showcase projects, skills, and experience.
- Implemented responsive design principles for optimal viewing across different devices.
- Utilized modern web technologies to create a visually appealing and user-friendly interface.

Blogging Website | Github

Personal Blogging Website   *HTML, CSS, JavaScript, Node.js, Express.js*

- Developed a personal blogging website to share thoughts, ideas, and experiences.
- Implemented features such as user authentication, post creation, and commenting functionality.
- Utilized Node.js and Express.js for backend development, ensuring a robust and scalable architecture.

AGORA Video Chat App | Github

Real-time Video Chat Application   *JavaScript, AGORA SDK, WebRTC*

- Developed a real-time video chat application utilizing AGORA SDK and WebRTC technology.
- Implemented features such as user authentication, peer-to-peer video calling, and real-time messaging.
- Ensured seamless communication and low-latency streaming for an enhanced user experience.

Stripe Payment Portal | Github

Payment Gateway Integration   *JavaScript, Stripe API, HTML, CSS*

- Developed a payment portal integrating Stripe API for seamless online transactions.
- Implemented secure payment processing with tokenization and encryption techniques.
- Designed a user-friendly interface for customers to make payments securely and conveniently.

My Firewall-DIY | Github

Machine Learning Based Web Application Firewall   *Python, Machine Learning, Web application Security*

- Engineered a robust and adaptive system capable of identifying and mitigating emerging threats in real-time, ensuring optimal web application security.
- Integrated advanced machine learning models to analyze patterns, anomalies, and potential vulnerabilities within incoming web traffic, enhancing the accuracy of threat detection.
- Implemented user-friendly interfaces and reporting tools to facilitate monitoring and analysis of security events, providing actionable insights for cybersecurity teams.

GuardianSniff | Github

Privacy-Preserving Packet Sniffer for Secure Network Monitoring   *Packet Sniffing, Privacy Preservation, Security*

- Conducted thorough testing to validate the effectiveness of privacy preservation measures, ensuring minimal impact on network monitoring capabilities while upholding user privacy rights.
- Incorporated machine learning algorithms to detect anomalous patterns in network traffic without compromising individual user privacy, providing early indications of potential security threats.

MetaGuard | Github

Empowering File Metadata Management in a Microservices Architecture   *Microservice, File Handling*

- Conceptualized and developed "MetaGuard," a dynamic microservices-based file metadata management system designed for efficiency and scalability.
- Enhanced user privacy and security through robust authentication and authorization mechanisms, safeguarding sensitive file metadata.

KIIT-Threads | Github

Fostering Privacy-Preserving Conversations in the College Community.   *TCP/IP, Server Connection, NodeJs*

- Implemented end-to-end encryption to ensure that conversations within the app remain confidential and protected from unauthorized access.
- Conducted a comprehensive privacy assessment to identify and address potential vulnerabilities, ensuring the app complies with privacy regulations and standards.
- Designed a user-friendly interface that prioritizes privacy settings, allowing users to control the visibility of their posts and interactions within the college community.

PrivQR Librarian | Github

Enhancing Library Management with Privacy-Preserving QR Code Technology *Python, Google API, Microsoft Excel, Node*

- Implemented a privacy-preserving approach by anonymizing user data within QR codes, minimizing the storage and transmission of personally identifiable information.
- Collaborated with library staff to implement features such as contactless check-in/check-out, enabling a seamless and privacy-conscious borrowing experience for users.
- Designed a user-friendly interface that allows library patrons to conveniently access library services and resources using secure QR codes without compromising their privacy.

PrivImage AI | Github

Crafting Images with Privacy-Preserving Intelligence.   *OpenAi, Midjourney, Image Processing*

- Developed "PrivImage AI," an innovative image generator that harnesses the power of artificial intelligence while prioritizing user privacy.
- Integrated advanced anonymization techniques to protect user identities within the image generation process, preventing unintended exposure of personal information.
- Actively monitored and updated PrivImage AI to address emerging privacy challenges and advancements in privacy-preserving technologies.

Publications

2022 Fourth Doctoral Symposium on Intelligence Enabled Research   December 2022

Cybersecurity Imminent Threats with Solutions in Higher Education | Certificate

- Presented a research paper titled "Cybersecurity Imminent Threats with Solutions in Higher Education" at the Fourth Doctoral Symposium on Intelligence Enabled Research.
- Collaborated with esteemed professors, Dr. Debajyoty Banik and Dr. Mahendra Kumar, on in-depth research to analyze and address imminent cybersecurity threats specific to higher education institutions.
- Emphasized the importance of intelligence-enabled research in staying ahead of evolving cybersecurity threats and presented strategies for proactive risk management in higher education environments.
- Contributed to the academic community by sharing research findings, methodologies, and practical solutions to enhance the cybersecurity posture of higher education institutions.

Skills

Programming Languages:

C/C++, Python, Javascript, Express, NodeJs, Dart, Java, Shell Scripting

Technologies & Tools:

Google's TensorFlow Privacy,Microsoft SEAL, Git, Linux, Docker,

Research Skills & Tools:

Research Paper Writing and Publication, Threat Intelligence Research, Malware Analysis, Vulnerability Assessment

Databases & Cybersecurity Tools:

Oracle, NoSQL(MongoDB), SQL, Query Optimization | Wireshark, Nessus, Metasploit, Nmap, Burp Suite

Certifications

Microsoft Cybersecurity Analyst Certificate

Google IT Support Professional Certificate |

Google Cybersecurity Certificate | Certificate

Network Security Database Vulnerabilities | Certificate

CCNA: Enterprise Networking, Security, and Automation

CCNA: Switching, Routing, and Wireless Essentials

CCNA: Introduction to Networks

Cybersecurity Essentials

Programming Essentials in Python Problem Solving- Intermediate (Hackerrank) | Certificate

ICDCIT 2023 Cyber Workshop | Certificate

Recommendations

Cisco® CCNAv7 -1 | Letter of Recommendation

Description:

Configure switches and end devices to provide access to local and remote network resources.
Explain how physical and data link layer protocols support the operation of Ethernet in a switched network.
Configure routers to enable end-to-end connectivity between remote devices.
Create IPv4 and IPv6 addressing schemes and verify network connectivity between devices.
Explain how the upper layers of the OSI model support network applications. Configure a small network with security
Troubleshoot connectivity in a small network.

Cisco® CCNAv7 -2 | Letter of Recommendation

Description:

Configure single-area OSPFv2 in both point-to-point and multiaccess networks.

Explain how to mitigate threats and enhance network security using access control lists and security best practices.

Implement standard IPv4 ACLs to filter traffic and secure administrative access.

Configure NAT services on the edge router to provide IPv4 address scalability.

Explain techniques to provide address scalability and secure remote access for WANs.

Explain how to optimize, monitor, and troubleshoot scalable network architectures.

Explain how networking devices implement QoS.

Implement protocols to manage the network. Explain how technologies such as virtualization, software defined networking, and automation affect evolving networks.

Cisco® CCNAv7 -3 | Letter of Recommendation

Description:

Configure VLANs and Inter-VLAN routing applying security best practices.

Troubleshoot inter-VLAN routing on Layer 3 .

Configure redundancy on a switched network using STP and EtherChannel.

Troubleshoot EtherChannel on switched networks.

Explain how to support available and reliable networks using dynamic addressing and first-hop redundancy protocols.

Configure dynamic address allocation in IPv6 networks.

Configure WLANs using a WLC and L2 security best practices.

Configure switch security to mitigate LAN attacks.

Configure IPv4 and IPv6 static routing on routers.

Awards

Event- International Youth Math Competition

Award - Silver Honor | Certificate

Description:

Awarded Silver Honor in International Youth Math Competition, showcasing exceptional problem-solving skills and a strong aptitude for mathematics on a global scale. Demonstrated the ability to excel in a competitive environment and contributed to the promotion of mathematical excellence among youth.

Event - International Astronomy and AstroPhysics Competition(IAAC)

Award - Silver Honor |Certificate

Description:

Secured Silver Honor in International Astronomy and Astrophysics Competition, highlighting a profound understanding of celestial concepts and a keen interest in the exploration of the cosmos. Recognized for analytical thinking and dedication to advancing knowledge in the field of astronomy on an international platform