

Alfred Miguel B. Lopez

amb.lopez7@gmail.com | +63 920 367 9442

LinkedIn: www.linkedin.com/in/am-lopez7

GitHub: 21-02351-AM

Personal Profile

Enthusiastic and driven, I am currently pursuing a Bachelor of Science in Computer Science with a fervent interest in cybersecurity, web development, game development, and software engineering. With a commitment to continuous learning and a passion for leveraging technology to solve real-world problems, I am eager to contribute to innovative projects and advance in the dynamic field of computer science.

Education

Batangas State University

2021 – 2025

The National Engineering University Alangilan: BS Computer Science

- GWA: 1.6580
Dean's Lister in First Year, First Semester with 1.5109 GWA
Dean's Lister in First Year, Second Semester with 1.4674 GWA
Dean's Lister in Second Year, First Semester with 1.4565 GWA

Relevant Modules:

Computer Programming, Introduction to Computing, Linear Algebra, Number Theory, Differential Calculus, Advanced Computer Programming, Integral Calculus, Data Structures and Algorithms, Object Oriented Programming, Discrete Mathematics, Computer Organization with Assembly Language, Computer Networking I, Calculus-Based Physics, Numerical Methods, Design and Analysis of Algorithms, Advanced Object-Oriented Programming, Mobile Computing, Human-Computer Interaction, Data Analysis, Automata Theory and Formal Languages, Fundamentals of Data Science, Advanced Software Engineering, Artificial Intelligence, Principles of Operating Systems, Machine Learning, Cybersecurity, Cloud Computing, Internet of Things

Batangas State University

2021

The National Engineering University – ARASOF

- With Honors under Science, Technology, Engineering, and Mathematics Curriculum

Internship

Leisue Inc. – Development Intern

2024

- Front-end development using Angular and Tailwind CSS
- Integrated RESTful APIs and tested endpoints using Postman
- Trained with the development team to enhance user interface responsiveness
- Documented project workflows and tasks using Notion

Thesis and Research Experience

Title: Attention-Free Hunter-Prey Optimization for the Traveling Salesman Problem with Time Windows in the Garbage Route Collection Problem

- Developed a novel HPO model eliminating fitness functions to reduce computational load.
- Designed adaptive predator-prey mechanisms to enhance global optimization and avoid local optima.
- Implemented and tested algorithm for smart city waste collection with dynamic time window constraints.
- Benchmarked performance against existing algorithms using simulated datasets reflecting real-world traffic and waste patterns.

Projects

University Merchandise Reservation System

Developer – CICSTRIX Team

Batangas State University - The National Engineering University Alangilan

February 2025 – June 2025

- Served as **Quality Assurance Manager** in CICSTRIX, a student-led development team that built an online reservation system for university merchandise and uniforms.
- Led the planning and execution of QA activities including test case creation, unit testing, user acceptance testing (UAT), and bug tracking throughout the development lifecycle.
- Ensured system reliability, usability, and performance by conducting regular functional and security testing.
- Collaborated with developers and the Resource Generation Office (RGO) to address issues early and validate stakeholder requirements.
- Contributed to the development of secure login/authentication, real-time inventory tracking, and admin dashboards.

- Participated in regular progress meetings with RGO for sprint reviews, feedback sessions, and deployment readiness checks.

Tools & Technologies: Firebase, Django, React, Node.js, Git, VS Code, Manual Testing

Relevant Research Skills

- Programming knowledge in languages such as C++, C, Python, Java, Kotlin, PHP, JavaScript, TypeScript, and LaTeX.
- Tenacity and diligence for developing research projects
- Meticulous and thorough when approaching mathematical and scientific problems
- Ability to analyze research literature to an outstanding standard

Certifications

Syntax And Structure of C - Simply C

July 2025

- Completed an online course focused on foundational C programming, emphasizing syntax and structure.
- Acquired foundational skills in coding logic, data types, control flow, and function design using C.
- Learned to apply programming structures such as loops and conditionals for effective code development.
- Gained confidence in writing, compiling, and troubleshooting basic C programs used in embedded systems.

Elements of AI, University of Helsinki x MinnaLearn

June 2025

- Completed a 2 ECTS online course introducing the fundamentals of Artificial Intelligence.
- Gained conceptual understanding of key AI topics including machine learning, neural networks, and ethical implications.
- Explored real-world AI use cases and societal impact through interactive modules.
- Developed critical thinking on AI limitations and its role in decision-making processes.

Security Operations Fundamentals, Palo Alto Networks

May 2024

- Fundamentals of security operations including threat landscape, attack methodologies, and security technologies.
- Understanding of network security concepts, firewall technologies, and best practices in network defense.
- Practical knowledge in deploying and managing Palo Alto Networks' security solutions.
- Insight into security incident handling, response procedures, and mitigation strategies.
- Familiarity with security operations center (SOC) operations and incident triaging.

Domain 5: Security Operations, ISC2

May 2024

- Understanding of security operations principles, practices, and procedures.
- Knowledge of security operations center (SOC) roles, responsibilities, and functions.
- Familiarization with incident response processes, including preparation, detection, analysis, containment, eradication, and recovery.
- Insight into security monitoring and analysis techniques, including log analysis, threat intelligence, and security information and event management (SIEM).
- Introduction to security incident handling, response procedures, and mitigation strategies.

Domain 4: Network Security, ISC2

May 2024

- Understanding of fundamental network security concepts, including network protocols, architecture, and topologies.
- Knowledge of common network security threats, vulnerabilities, and attack vectors, such as malware, phishing, and denial-of-service (DoS) attacks.
- Familiarization with network security controls and technologies, including firewalls, intrusion detection/prevention systems (IDS/IPS), virtual private networks (VPNs), and network access control (NAC).
- Insight into network security best practices, such as defense-in-depth, secure configuration management, and security monitoring.
- Introduction to network security policies, procedures, and compliance requirements, including regulatory frameworks such as GDPR and HIPAA.

Domain 3: Access Control Concepts, ISC2

May 2024

- Understanding of access control principles and methodologies.

- Knowledge of access control models, including discretionary access control (DAC), mandatory access control (MAC), and role-based access control (RBAC).
- Familiarization with access control mechanisms, such as access control lists (ACLs), authentication, authorization, and accounting (AAA), and biometric authentication.
- Insight into access control implementation best practices, including least privilege, separation of duties, and principle of least privilege.
- Introduction to access control technologies and solutions, including firewalls, intrusion detection/prevention systems (IDS/IPS), and identity and access management (IAM) systems.

Domain 2: Incident Response, Business Continuity and Disaster Recovery Concepts, ISC2

May 2024

- Understanding of incident response principles, including preparation, detection, containment, eradication, and recovery.
- Knowledge of incident response frameworks, methodologies, and best practices.
- Familiarization with business continuity planning, including risk assessment, business impact analysis, and continuity strategies.
- Insight into disaster recovery planning, including recovery point objectives (RPOs) and recovery time objectives (RTOs).
- Introduction to incident response testing, exercises, and drills.

Domain 1: Security Principles, ISC2

May 2024

- Understanding of security governance principles, including organizational security, roles, responsibilities, and frameworks.
- Knowledge of risk management concepts, including risk assessment, analysis, and mitigation strategies.
- Familiarization with security policies, procedures, standards, and guidelines.
- Insight into security awareness and training programs for employees.
- Introduction to the legal and regulatory requirements related to information security.

Cybersecurity Fundamentals, Palo Alto Networks

April 2024

- Overview of cybersecurity principles, practices, and emerging threats.
- Fundamentals of network security, including firewalls, intrusion detection/prevention systems, and secure web gateways.
- Introduction to threat intelligence, malware analysis, and security incident response.

- Understanding of Palo Alto Networks' cybersecurity solutions and their role in securing networks.
- Practical skills in configuring and managing security policies using Palo Alto Networks' products.

Vulnerability Management Detection and Response, Qualys

March 2024

- Comprehensive understanding of vulnerability management lifecycle, including assessment, prioritization, remediation, and verification.
- Proficiency in using Qualys' vulnerability management tools for asset discovery, vulnerability scanning, and risk assessment.
- Knowledge of common vulnerabilities and exposures (CVEs), common vulnerability scoring system (CVSS), and other industry standards.
- Hands-on experience in analyzing vulnerability scan results, identifying critical vulnerabilities, and recommending remediation actions.
- Familiarity with vulnerability response strategies, including patch management, configuration management, and mitigation techniques.

Open-source Intelligence, Basel Institute on Governance

March 2024

- Understanding the fundamentals of open-source intelligence (OSINT) and its relevance in investigative work and decision-making processes.
- Techniques for gathering, analyzing, and verifying information from publicly available sources such as social media, websites, and online databases.
- Legal and ethical considerations in conducting OSINT activities, including privacy, data protection, and information security.
- Tools and methodologies for conducting OSINT investigations, including search engine operators, social media monitoring tools, and data visualization techniques.
- Case studies and real-world examples illustrating the application of OSINT in various domains, including law enforcement, cybersecurity, and business intelligence.

FCF - Getting Started in Cybersecurity 2.0 Self-Paced, Fortinet Training Institute

February 2024

- Introduction to foundational concepts in cybersecurity, including network security, endpoint protection, and threat intelligence.

- Overview of common cyber threats and attack vectors, including malware, phishing, and denial-of-service (DoS) attacks.
- Familiarization with essential cybersecurity technologies and tools, such as firewalls, intrusion detection/prevention systems (IDS/IPS), and security information and event management (SIEM) solutions.
- Practical exercises and labs to reinforce learning, including hands-on experience with Fortinet's cybersecurity products and solutions.
- Guidance on pursuing further education and certifications in cybersecurity, along with career paths and opportunities in the field.

FCF - Introduction to the Threat Landscape 2.0 Self-Paced, Fortinet Training Institute

February 2024

- Comprehensive overview of the current threat landscape in cybersecurity, including emerging threats, attack vectors, and trends.
- Understanding of various types of cyber threats, including malware, ransomware, phishing, insider threats, and advanced persistent threats (APTs).
- Analysis of recent cybersecurity incidents and case studies to illustrate real-world examples of threats and their impact.
- Examination of threat actors and their motivations, including cybercriminal organizations, state-sponsored actors, and hacktivists.
- Introduction to threat intelligence concepts and methodologies for proactive threat detection, prevention, and response.

CCNAv7: Introduction to Networks, CISCO NetAcad

February 2023

- Fundamentals of networking concepts, including OSI and TCP/IP models, IP addressing, subnetting, and basic network protocols.
- Introduction to Ethernet LANs, VLANs, and basic switching concepts.
- Overview of routing protocols, including static and dynamic routing.
- Basic networking security principles, including access control lists (ACLs) and network address translation (NAT).
- Hands-on labs and simulations using CISCO Packet Tracer to reinforce theoretical concepts.

Co-Curricular Experiences

Secure Learning Webinar: Computer Networking Essentials	2022
TechTalks 2022: Into the Cyber World	2022
PATH FINDER: Toolkits for a Winning Career in the Technology Field	2021

REFERENCES

Mrs. Lanie Palad
 Department Chair, BSCS
 Batangas State University - The National
 Engineering University Alangilan

Dr. Princess Marie B. Melo, PhD
 Dean, College of Informatics and Computing
 Sciences
 Batangas State University - The National
 Engineering University Alangilan