**Consuelo Ramirez**

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**SUMMARY**

Detail-oriented and mission-driven cybersecurity professional with hands-on experience at multiple Department of Energy laboratories. Experienced in IT operations, secure system development, and managing cross-functional technical projects. Strong communicator and collaborator with a record of leading teams, mentoring peers, and translating complex technical work for diverse audiences. U.S. citizen with Secret Clearance (eligible for reinstatement), qualified for Public Trust/TS roles, and passionate about securing federal systems through secure-by-design solutions.

**EDUCATION**

**The University of Texas at El Paso**  **05/2025**

Master of Science in Software Engineering with a concentration in Secure Cyber-Systems

**The University of Texas at El Paso 12/2023**

Bachelor of Science in Computer Science, minor in Mathematics

**Honors & Affiliations**

Dean’s List (Fall 2019), Spring (2022), TRAX International Endowed Scholarship 2020-2021, Secret-level Clearance (2022-present), Scholarship for Service (SFS) (2023-2025)

**TECHNICAL SKILLS**

* **Programming & Scripting:** Python, Bash, Java, C/C++, JavaScript, SQL
* **Cybersecurity Tools & Frameworks:** Kali Linux, Wireshark, Nmap, Suricata, Nessus, Ghidra, IDA Pro, Volatility, Binwalk, Steghide, Burp Suite
* **Secure Development & DevOps:** Git, GitHub, GitLab, Docker, Flask, pytest, microservice testing, CI/CD pipelines
* **System Security & Analysis:** Vulnerability scanning, network monitoring, reverse engineering, digital forensics, authentication systems
* **Machine Learning & NLP:** TensorFlow, Keras, BERT, OpenAI API, cyber data analysis, automation
* **Operating Systems: Unix/Linux (Kali, Ubuntu), Windows, Virtual Machines**
* **Data Visualization: Power BI, Plotly, Excel**
* **Web & UI Tools:** HTML, CSS, Unity, Bootstrap, Figma
* **Other Skills:** Fluent in English and Spanish, AV systems (Extron, Q-SYS), STEM outreach, cybersecurity education experience

**CYBERSECURITY EXPERIENCE**

**Lawrence Livermore National Security**  **Livermore, CA | 05/2024 – 08/2024**

***Cybersecurity - Graduate Intern - Cyber and Critical Infrastructure Summer Institute***

* Engineered a Python library composed of Pydantic module files to centralize data models, significantly reducing project dependencies and improving code reusability across multiple projects.
* Automated Python dependency management through custom scripts that parsed, updated, and validated imports, increasing development efficiency.
* Implemented GitLab CI/CD pipeline with nightly automated testing and analytics reporting, achieving 99% build success rate and real-time project health monitoring.

**Department of Energy Omni Technology Alliance/Pacific Northwest National Laboratory** **Richland, WA | 05/2023 – 08/2023**

***Visiting Researcher Intern***

* Designed and developed a Unity-based simulation game to visualize cyber threats in hydropower infrastructure, increasing cybersecurity literacy among non-technical audiences and supporting outreach efforts.
* Investigated IoT device vulnerabilities and communication protocols, providing actionable insights to support critical infrastructure security research.

**Army Futures Command Devcom DAC**  **White Sands Missile Range, NM | 05/2021 – 08/2021**

***Cybersecurity Intern***

* Authored technical guides for Nessus, SSH, and Ngrok, cutting intern onboarding time by 50% and adopted across the department as standard material.
* Researched Wi-Fi exploitation tools (e.g., Wifite), 5G vulnerabilities, AI algorithms, and database structures to support cyber capability development.
* Created a Professional Development Event (PDE) enabling hands-on cybersecurity training with tools such as Ettercap, File Transfer Protocol, Virtual Environments, and Wireshark.
* Elevated team technical proficiency by conducting Linux terminal workshop, resulting in widespread adoption of advanced command-line security practices.

**RESEARCH & PROJECTS**

**CWE-ATT&CK Analyzer**

* **Processed large datasets (CWE and ATT&CK) using Python to create embeddings and store vectors in a Weaviate database for querying.**
* **Used the OpenAI API to summarize outputs from BERT embeddings for simpler and more concise query results.**
* **Built interactive Plotly visualizations mapping attack techniques to mitigations, enabling rapid threat landscape assessment.**

**Web Proxy Server Implementation (Computer Networks - Proxy Server Lab)**

* **Designed and implemented a Python-based socket program to create a simple HTTP web proxy server. The project focused on understanding how proxy servers intercept, modify, and forward HTTP requests between clients and servers.**

**Reliable File Transfer Protocol (Computer Networks)**

* **Created a system that simulated the operation of application layer protocols for reliable file transfers. Implemented error recovery and packet acknowledgment to guarantee successful delivery.**

**Web-Based Authentication System**

* Developed a PHP-based authentication system with password validation, user sessions, and role-based access (admin vs. user).
* Implemented access control, admin privilege escalation, and secure redirection to prevent URL tampering.
* **Image Classification Using CNNs**
* Trained a CNN using TensorFlow and Keras to classify similar images. Improved accuracy with regularization, batch normalization, and data augmentation. Compared results against logistic regression using accuracy and precision metrics.

**ADDITIONAL EXPERIENCE**

**University of Texas at El Paso El Paso, TX | 01/2024 – 05/2025**

***Teaching Assistant***

* Assisted in teaching the Software Engineering capstone course, equipping students with real-world development skills and project methodologies.
* Designed and supported lecture materials, increasing student engagement and improving consistency in project execution.
* Clarified complex concepts for over 100 students during lectures, held office hours, and provided feedback on project deliverables.
* Served as the main point of contact between clients and student teams, reducing miscommunication by 80% and ensuring alignment on project goals.

**UTEP Learning Environments**  **El Paso, TX | 08/2021 – 08/2023**

***Student Leadership Advisor* (SLA)**

* Oversaw 30+ student employees and facilitated communication with faculty mentors to ensure smooth collaboration and clear expectations.
* Supervised daily IT operations for AV systems and service requests, prioritized team workloads, and implemented ticket tracking strategies that reduced issue resolution time by 30%.
* Enhanced staff technical capabilities through comprehensive training on AV systems, troubleshooting, and fabrication equipment, reducing equipment downtime by 25%.

**Test Research Management Center - Broadleaf White Sands Missile Range, NM | 06/2022 –08/2022**

***STEM Intern***

* Developed a user-guided interface utilizing Power BI, Power Apps, and Excel to effectively present mission support resource data, enhancing accessibility and user experience.
* Created 3D airspace model, resulting in a 25% improvement in airspace deconfliction. This model enhanced visualization and decision-making processes.

**UTEP Learning Environments**  **El Paso, TX | 08/2018 – 08/2021**

***Undergraduate Assistant***

* Instructed K-12 students in various STEM subjects, including Python, Scratch, Raspberry Pi, and Sphero, as part of the Tech-E outreach program.
* Installed, configured, and programmed classroom AV systems such as Extron and Q-SYS, significantly reducing technical disruptions and enabling smooth hybrid instruction during COVID-19 transitions.
* Administered the online 3D printing queue using 3D printer OS, overseeing printouts for multiple 3D printers with proficiency in Tinker CAD.
* Provided hands-on support in the GAIA makerspace, helping students utilize fabrication equipment efficiently and meet project deadlines.

**Gains in the Education of Mathematics and Science (GEMS) White Sands Missile Range, NM | 06/2019 & 06/2021**

***Program Mentor***

* Provided mentorship to middle school students, facilitating hands-on experiments in electronic warfare and social engineering, fostering practical skills and critical thinking*.*
* Collaborated with teachers and Army research scientists to coordinate daily STEM activities, increasing student engagement by 40% and improving comprehension through hands-on learning and mentorship.

**PROJECTS & LEADERSHIP EXPERIENCE**

**Great Minds in Stem (GMIS)** **10/2023 & 10/2024**

* Participated in cybersecurity hackathon which covered topics such as reverse engineering, steganography, cryptography, and the utilization of tools such as Wireshark, IDA Pro, and Ghidra.

**CyberForce Competition**  **11/2023**

* Attended a collegiate, team-based competition centered around a defend/attack energy cyber scenario, emphasizing the critical infrastructure's cybersecurity hardening. Engaged in tasks involving steganography and PCAP file analysis to strengthen overall team performance.

**Tracer FIRE Competition** **11/2022**

* Participated in a digital forensics’ hackathon, utilizing tools like Ghidra, IDA, and Suricata within virtual machine environments. Crafted detailed reports outlining the strategies employed to uncover solutions during the cyber-attack investigations in the competition.

**Kernelcon CTF 04/2024 & 04/2025**

* Competed in Capture-the-Flag events, participated in side-quests, badge hardware hacking, and hands-on challenges testing offensive and defensive skills across multiple domains.

**Leadership & Outreach**

* **Miners in Cybersecurity:** Delivered a workshop reinforcing networking fundamentals and explaining core concepts of network systems, including protocols and their functions, to support students pursuing the Google Cybersecurity Certificate.
* **Google Development Student Club**: Officer of External Affairs, Organized and managed technical workshops and training sessions, handling logistics, technical content delivery, and follow-up support for over 50 attendees.
* **Bandit (game development organization):** Member of the web development and technical team, required the use of PHP, HTML, Bootstrap and CSS, as well as designing with Unity.
* **Computing Alliance of Hispanic-Serving Institutions:** Received mentorship as a *protégé* and became a mentor to peers as an *Ally*. Attended personal development workshops and held monthly 1-1 meetings with *protégés* to assist in their academia.

**Certifications**

* CompTIA Security+ In Progress - Expected: **08/2025**