

Consuelo Ramirez

📍 El Paso, TX. ✉ cgramirez@miners.utep.edu 📞 915-691-4665 🌐 connie-ramirez.com

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