

## Education

- 2021–Present **Ph.D. in Geospatial Computer Science**, *Texas A&M University-Corpus Christi*  
Advisor: Carlos Rubio-Medrano  
Topics: Cyber-Physical Systems Security and Satellite Security
- 2018–2020 **Master's Degree in Computer Science**, *Arizona State University*  
Advisors: Gail-Joon Ahn, Adam Doupé, and Carlos Rubio-Medrano  
Thesis: HoneyPLC: A Next-generation Honeypot for Industrial Control Systems
- 2009–2012 **Bachelor's Degree in Computer Networks**, *Universidad Autónoma de Guadalajara*  
Highest Honors

## Publications

**Efrén López Morales**, Ulysse Planta, Carlos E. Rubio-Medrano, Ali Abbasi, Alvaro Cardenas, "SoK: Security of Programmable Logic Controllers," *In Proceedings of the 33rd USENIX Security Symposium*, Philadelphia, PA, USA, August 2024.

**Efrén López Morales**, Carlos E. Rubio-Medrano, Adam Doupé, Yan Shoshitaishvili, Ruoyu Wang, Tiffany Bao, and Gail-Joon Ahn, "HoneyPLC: A Next-generation Honeypot for Industrial Control Systems," *In: Bao, T., Tambe, M., Wang, C. (eds) Cyber Deception. Advances in Information Security, vol 89. Springer, Cham*, October, 2022.

**Efrén López Morales**, Carlos E. Rubio-Medrano, Adam Doupé, Yan Shoshitaishvili, Ruoyu Wang, Tiffany Bao, and Gail-Joon Ahn, "HoneyPLC: A Next-generation Honeypot for Industrial Control Systems," *In Proceedings of the 2020 ACM SIGSAC Conference on Computer and Communications Security 2020*, Online, November 2020.

## Research Experience

- Feb-May 2023 **Research Internship**, *CISPA Helmholtz Center for Information Security*, Holz Research Group  
Advisors: Ali Abbasi and Thorsten Holz
- Jul 2022 **Visiting Researcher**, *University of California Santa Cruz*, Cy-Phy Security Lab  
Advisor: Álvaro Cárdenas
- 2021-Present **Graduate Research Assistant**, *Texas A&M University-Corpus Christi*, CSRIL Security Lab  
Advisor: Carlos Rubio-Medrano
- 2019–2020 **Graduate Research Assistant**, *Arizona State University*, SEFCOM Laboratory  
Advisors: Adam Doupé, Yan Shoshitaishvili, Ruoyu Wang, Tiffany Bao, Gail-Joon Ahn and Carlos Rubio-Medrano

## Honors & Awards

- Oct 2023 **Student Conferencship**, Annual Computer Security Applications Conference (Austin, TX)
- Sep 2023 **Google Conference Scholarship**, SACNAS National Diversity in STEM Conference (Portland, OR)
- Sep 2023 **Student Travel Grant**, IEEE Secure Development Conference (Atlanta, GA)
- Aug 2022 **Conference Travel Award**, Great Minds in STEM Conference (Pasadena, CA)
- May 2022 **Student Travel Award**, 43<sup>rd</sup> IEEE Symposium on Security and Privacy (San Francisco, CA)
- Apr 2022 **1<sup>st</sup> Place Winner in 3MT Thesis Competition**, Texas A&M University-Corpus Christi
- Mar 2022 **Overleaf Advisor**, The Overleaf Advisor Programme
- Nov 2021 **iMentor Workshop Mentee**, ACM Conference on Computer and Communications Security (Virtual)
- Oct 2021 **1<sup>st</sup> Place in Graduate Computing Poster Competition**, Great Minds in STEM Conference (Virtual)
- May 2021 **Student Travel Award**, 42<sup>nd</sup> IEEE Symposium on Security and Privacy (Virtual)

- Apr 2021 **SAGE Fellowship**, Texas A&M University-Corpus Christi
- Aug 2020 **Conference Diversity Grant (Virtual)**, USENIX Security Symposium (USENIX)
- 2020 **Outstanding Mentor Award**, Arizona State University
- 2018 **Fulbright-García Robles Scholarship**, Fulbright COMEXUS
- 2012 **Academic Excellence Scholarship**, Universidad Autónoma de Guadalajara

## ■ Talks and Presentations

- Apr 2023 **Design of a Satellite Honeypot**, *Poster Presentation at Innovation Corner*, CySat (Paris, France)
- Oct 2022 **Exploiting and Securing Programmable Logic Controllers**, *Graduate Computing Poster Competition*, GMiS Conference (Pasadena, CA)
- Apr 2022 **Exploiting and Securing Programmable Logic Controllers**, *Spring Student Research Symposium Poster Presentation*, Texas A&M University-Corpus Christi
- Apr 2022 **Overleaf Typesetting Workshop**, *Spring Student Research Symposium*, Texas A&M University-Corpus Christi
- Apr 2022 **Exploiting and Securing Programmable Logic Controllers**, *3MT Thesis Competition*, Texas A&M University-Corpus Christi
- Mar 2022 **Ciberseguridad: Habilidades y Oportunidades**, *Guest Speaker*, Universidad de la Sierra Juárez (Oaxaca, Mexico)
- Mar 2022 **Exploiting and Securing Programmable Logic Controllers**, *Lightning Talks Competition*, 17<sup>th</sup> Texas A&M University System Pathways Student Research Symposium (College Station, TX)
- 2021 **HoneyPLC: A Next-generation Honeypot for Industrial Control Systems**, *Graduate Computing Poster Competition*, GMiS Conference (Online)
- 2020 **HoneyPLC: A Next-generation Honeypot for Industrial Control Systems**, *In Proceedings of the 2020 ACM SIGSAC Conference on Computer and Communications Security 2020*, CCS 2020 (Online)

## ■ Service

- Jan 2023 **Journal Reviewer**, *IEEE Transactions on Dependable and Secure Computing*

## ■ Teaching Experience

- Fall 2023 **Senior Capstone Project Advisor (3 Students)**, *Honeypot Project*  
Texas A&M University-Corpus Christi
- Fall 2023 **Instructor of Record (16 Students)**, *COSC-4367 Firewalls and Intrusion Detection Systems*  
Texas A&M University-Corpus Christi
- Fall 2018 - Spring 2019 **Teaching Assistant (4 Labs, 100 Students)**, *CSE110 Principles of Programming with Java*  
Arizona State University

## ■ Leadership Experience

- 2022-Present **Mentor**, *FutureGRADS MentorSHPE Program*, Society of Hispanic Professional Engineers (SHPE) National
- 2021-Present **President**, *Geospatial Computer Science Graduate Student Organization (GSCGSO)*, Texas A&M University-Corpus Christi
- 2021-Present **Treasurer**, *Society for Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS)*, Texas A&M University-Corpus Christi
- 2019-2020 **President**, *Fulbright International Student Association*, Arizona State University

## ■ Industry Experience

- 2020–2021 **Network Support Engineer**, *Cisco Meraki*, Diagnosed and troubleshooted routing and switching, wireless, security, SD-WAN and firewall Meraki products and technologies using the Meraki Dashboard, Wireshark and Knowledge Base articles
- 2016–2018 **Network Engineer**, *Telmex*, Configure and troubleshoot L3 and L2 technologies: MPLS, BGP, EIGRP, OSPF, QoS, VRFs, STP, PoE

- 2014–2016 **Systems Engineer**, *Tata Consultancy Services*, Troubleshooted networking, Windows Server and Active Directory technologies
- 2013 **Systems Engineer**, *Universidad Autónoma de Guadalajara*, Performed as Webmaster and administrator of DNS and Web servers
- 2012 **Junior Network Engineer**, *Pemex*, Configured Cisco, Nortel, Extreme enterprise switches and routers

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## Media

- Jun 2023 **Island University computer science doctoral student Efrén López '25 is hopping the globe!**  
Featured by Texas A&M University-Corpus Christi
- Mar 2023 **Great to have you at CISPA, Efrén Lopez!**  
Featured by CISPA – Helmholtz Center for Information Security
- May 2022 **Today we want to highlight our 1st Place Award Winner Efrén Lopez-Morales!**  
Featured by Texas A&M University-Corpus Christi

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## Languages

- Spanish:** Native
- English:** Proficient
- Brazilian Portuguese:** Proficient
- German:** Elementary proficiency

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## References

**Carlos Rubio-Medrano**  
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College of Science and Engineering  
Texas A&M University-Corpus Christi  
Corpus Christi, TX  
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