Vinicius Bobato

(817) 542-8538 • vmbobato@tamu.edu
Website: https://vmbobato.github.io Linked-In: https://www.linkedin.com/in/vmbobato/

EDUCATION

Texas A&M University — **College Station, Texas**
Ph. D Computer Engineering — *GPA: 3.7*

Texas A&M University — **College Station, Texas**
M.S. Engineering Technology — *GPA: 3.7*
Thesis: Cyber Security Use Cases on a Smart Distribution System

Texas A&M University — **College Station, Texas**
B.S. Electronic Systems Engineering Technology with Cybersecurity Minor — *GPA: 3.6*

SKILLS

Programming & Scripting: Python • C/C++ • Shell/Bash • MIPS Assembly • Beginner AI/ML • Numpy & Pandas • OOP
Networking: Cybersecurity • Protocols and Standards • UNIX • TCP/IP • Virtualization • Data Analysis • Packet Analysis (Wireshark) • IT/OT
Hardware: Embedded Systems • Embedded Linux • Analog and Digital Circuit Analysis
Soft Skills: Portuguese, English, and Spanish • Critical Thinking • Problem-Solving

EXPERIENCE

Department of Electrical and Computer Engineering – PRISE Project
Graduate Research, Aug. 2023 – Present

- Modeled the network side of a Smart Distribution System and AMI RF mesh network using Linux containers.
- Created Python scripts to allow communication between containers using TCP and UDP sockets.
- Performed different cyber-attacks to analyze their impact on a Smart Distribution Grid using ARP spoofing and packet generation open-source tools.
- Worked on the analysis of cyber-physical data in malicious settings using Python data-analysis tools.

Texas A&M Engineering Experiment Station – Cyber Physical Resilient Energy Systems Project
Undergraduate/Graduate Research Assistant, May 2022 – Dec. 2023

- Used Linux in virtualized environments and scripting languages to implement connectivity between DNP3 and ICCP protocols.
- Developed various programs in C/C++ and Python to integrate different technologies for research.
- Performed data-analysis techniques using Numpy and Pandas to find anomalies in malicious data from cyber-attacks.
- Applied and studied offensive and defensive techniques to safeguard digital assets.

Department of Engineering Technology & Industrial Distribution
Graduate Teacher Assistant for Local-and-Metropolitan-Area Networks, Jan 2024 – Present

- Led hands-on lab sessions to guide students in gaining proficiency with terminal commands on various operating systems, facilitating practical experience in networking configuration and troubleshooting.
- Designed and implemented varied networks using Cisco equipment for laboratory sessions.
- Assisted students to understand and implement different communication protocols and standards on routers and switches (OSPF, BGP, RIP, DHCP, VLANs, Trunking, STP).

OUTSTANDING PROJECTS

- **Engineering Tech Capstone**: As a Project Manager, I led the development of a table sized Remote Terminal Unit (RTU) using different electronics and DNP3 communication protocol for SCADA security research at Texas A&M University.
- **ShellBridge**: Developed a reverse shell application, enabling remote server interaction. Facilitated secure file transfers with download and upload functionalities using SSL/TLS, demonstrating skills in networking and cybersecurity.
- **Password Manager**: Developed a personalized password manager leveraging Python programming. Implemented algorithms to generate robust passwords, while efficiently storing them in a secure MySQL database using APIs, underscoring skills in encryption, data protection, and database management.

PUBLICATIONS

- Cyber Security of a Smart Power Distribution System – Cyber Subsystem Use Case - 2025 Grid Edge Technologies Conference & Exposition
- Cyber Security Use Case on a Smart Power Distribution System – Physical Subsystem - 2025 Grid Edge Technologies Conference & Exposition
- Analyzing a Multi-Stage Cyber Threat and Its Impact on the Power System - IET Cyber-Physical Systems: Theory & Applications

COURSEWORK

Artificial Intelligence • Embedded Systems Intelligent Design • Data Analysis and Tools for Industry • Advanced Network & Security Systems,