James E. Carambat

South Alabama CS Graduate Student ● 4.00 GPA ● SFS Student | Looking for Full Time Position

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SUMMARY

National Science Foundation Scholarship for Service Computer Science graduate student with a focus in Cybersecurity seeking post-grad employment in May 2023.

EDUCATION

University of South Alabama, Mobile, Alabama, 36688
School of Computing - National Center of Academic Excellence in Cyber Defense

- **Master of Science in Computer Science**   **Expected Date of Graduation: May 2023**
  Specialization in Computer Science, Focus in Cybersecurity   Current GPA: 4.00 / 4.00

- **Bachelor of Science in Computer Science**   **Date of Graduation: Jul 2021**
  Cyber Concentration, *Mathematics Minor*   GPA: 3.68 / 4.00

RELEVANT EXPERIENCE

DOE Omni Technology Alliance Internship   **Jun 2022 - Aug 2022**
Lawrence Livermore National Laboratory, Livermore, CA, 94550   **Hours Per Week**: 40 | **Pay Rate**: 18.75
- Development of MCAC (Malicious Code Analysis Center):
  - Framework and pipeline implementation on network isolated systems to enable single and/or bulk submission of malware samples for a quick static and dynamic analysis.
  - Data and results saved locally and queried through the use of elastic search.
  - Further implementation of REMnux and FlareVM for manual analysis.
  - Participation in an intern wide CTF competition (3rd place) and LLNL vs SNL CTF competition (2nd place).
  - Participation in Cyber and Infrastructure Resilience program activities, meetings, and project presentations.

Undergraduate Research Assistant   **Jun 2021 - Aug 2021**
University of South Alabama, Mobile, AL, 36688   **Hours Per Week**: 20 | **Pay Rate**: 10.00
- Security related research into Azure Sphere and the Pluton Subsystem of MT3620 (Microsoft IoT device).
  - Responsible for research documentation and understanding Azure Development.

Undergraduate Research Assistant   **Aug 2020 - Jan 2021**
University of South Alabama, Mobile, AL, 36688   **Hours Per Week**: 26 | **Pay Rate**: 11.00
- Department of Defense funded Machine Learning Research.
  - Responsible for creating multiple models of given data using convolutional neural networks.
  - Finding visualizer methods for model data (Graphviz and Tensor libraries).
  - Understanding methods of accessing and tuning Hyper Parameters in Random Forest.
  - Machine Learning and Deep Learning algorithms used: Random Forest, Decision Tree, Convolutional NN.

Undergraduate Research Assistant   **Jul 2020 - Aug 2020**
University of South Alabama, Mobile, AL, 36688   **Hours Per Week**: 26 | **Pay Rate**: 11.00
- INSuRE Grant
  - 1. Responsible for breaking down and preprocessing Android Application Permission Data to use in Random Forest algorithm to detect harmful applications.
  - 2. Malware Detection within WPA and WPA2 traffic. Dataset is used in Machine Learning Algorithms to detect Malware over 802.11i traffic. Responsible for breaking down and preprocessing AWID dataset to produce successful predictions using the Random Forest algorithm.

ADDITIONAL EXPERIENCE

Lifeguard   **May 2018 - Jun 2021**
University of South Alabama, Mobile, AL, 36688   **Hours Per Week**: 20 | **Pay Rate**: 9.00
- Skills range from leadership during an emergency, CPR, and Water Safety.

Crew Trainer   **Jun 2017 - Jan 2020**
Panera Bread, Mobile, AL, 36695   **Hours Per Week**: 24 **| Pay Rate**: 9.80
- Trained incoming employees. Leader on the food line and dining room : Consolidated and pushed orders, Dealt with customer complaints, Kept areas stocked, Communicated with manager and cashiers for special orders.

SKILLS

- Programming in Python, Java, C (Basics: Go, C++, Rust)
- Skilled in Windows, Linux/Unix, and OS X operating systems usage and command line
- Knowledge of Microsoft SQL Server to create, design and manage databases
- Virtual Machine management using Oracle VM Virtual Box, VMware (Workstation), and Parallels
- Understanding of OSI and TCP/IP networking models and protocols, Subnetting, CIDR Notation, Physical Devices
- Proficient in Microsoft Office Applications
- Basic knowledge of Windows and Linux Hardening
- Base understanding and usage of Machine Learning and Deep Learning
  - ML: (Random Forest, K-Nearest Neighbors, Support Vector Machine, Linear Regression, Decision Trees)
  - DL: (Convolutional NN)
- Hardware: Basic MT3620 Experience (Azure Sphere), FPGA Experience
- Cloud: Amazon AWS (Learned a good bit from CCDC 2022)
- Tools: Docker, PyEnv and VirtualEnv, Wireshark, Nmap, Wfuzz/FFUF, Burp Suite, SearchSploit, Google, Astah UML (Basics: Metasploit, Binary Ninja, Ghidra, GDB)

HONORS

- University of South Alabama's Cyber Corps: Scholarship For Service (SFS) Program   *Spring 2021 - Present*
  - Sponsored by the National Science Foundation and the Department of Homeland Security
- School of Computing Honor Society   *Spring 2022*
- President's List, University of South Alabama   *Fall 2017, Summer 2019, Fall 2020, Summer 2021*
- Dean's List, University of South Alabama   *Fall 2017 - Summer 2021*
- Presidential Scholarship   *Fall 2017*
- National Society of Leadership and Success   *Fall 2018*
- Phi Eta Sigma Honor Society   *Fall 2018*

LEADERSHIP / VOLUNTEER ACTIVITIES

- HOLLAs (Hands-on Learning Lab Activities) (Spring 2022)
  Duration: 1 Day | **Hour Per Event**: 4
  - Engaged with Freshman from Davidson High School and taught 3 separate groups in hour long sessions on how to create a web page using HTML and CSS.

- Feeding the Gulf Coast (Spring 2019 - Spring 2021)
  Day Per Semester: 2 | **Hours Per Event**: 4
  - Helped with checking and packaging leftover food from corporate grocery stores. Helped move large care packages. Food will go to struggling families along the Gulf Coast.

- McKemie Place (Fall 2018)
  Duration: 1 Day | **Hours Per Event**: 1
  - Helped with creating care packages and serving food to and for homeless women in need of help.

- Davidson Week of Code (Summer 2021)
  Duration: 5 Days | **Hours Per Event**: 3.5
  - Engaged with incoming freshmen at Davidson High School. Helped and taught different coding techniques and how to use introductory programs. (Scratch, Python, Raspberry Pi)

- South Bound Orientation (Summer 2021)
  Duration: 2 Days | **Hour Per Event**: 4
  - Engaged with incoming freshmen that are interested in the School of Computing. Recruitment event for undecided majors.

- Ronald McDonald House (Fall 2018)
  Duration: 1 Day | **Hours Per Event**: 2
  - Helped with setting up and serving food to families with sick children that cannot afford the basic necessities.

ORGANIZATIONS / MEMBERSHIPS

- **Alpha Tau Omega Fraternity** (Exec Board/Member)   *2019 - Present*

  Executive Position: Treasurer   *2019 - 2020*
  Chair Position: T-Shirt Chair, Financial and Fundraising Chair, Philanthropy Board Member
    - Organized, Maintained, and Budgeted Funds
    - Responsible for Semesterly Billing
    - Responsible for keeping Member Payments up to date
    - Responsible for setting up fundraising ideas and future fundraising plans
    - Organized T-Shirt sales, profits, and distribution
    - Developed T-Shirt ideas and send offs to Graphic Designers

- **DayZero Cyber Competition Team** (Exec Board/Advisor/Member)   *2017 - Present*

  Executive Position: Treasurer   *Fall 2020 - Spring 2022*
  Competition Participation:
    - Collegiate Penetration Testing Competition (CPTC) – November 19th   *Fall 2022*
    - CIAS: Hivestorm Competition   *Fall 2020, Fall 2021, Fall 2022*
    - Collegiate Cyber Defense Competition   *Spring 2021, Spring 2022*
      - *CCDC Regional Competition Participant Spring 2022*
      - *CCDC Preliminary Competition Participant Spring 2022*
      - *CCDC Preliminary Competition Participant Spring 2021*
    - NSA Codebreaker   *Spring 2021, Fall 2021, Fall 2022*
    - CyberForce: Reign Edition   *Fall 2022*
    - Maryland Cyber Challenge Competition (MDC3)   *Spring 2021*
    - CSAW365   *Spring 2021*
    - Secure Coding CTF   *Spring 2021, Summer 2021*

- **Systems Protection and Exploitation Research Group** (SPERG)
  Position: Member
    - Multidisciplinary research group of faculty and students with computing, engineering, and security focus.

Course Projects: (G = Graduate)
- *(G) Computer Architecture:* SimpleScalar - CPU (RISC Architecture) Simulation and Benchmarks.

- *(G) Software Engineering Principles:* Small World Application (Java) - Group project. Goal was to develop different functionalities of Small World within Eclipse using an Iterative Development method in combination with Subversion (version control). Created Use Case Diagrams/Specifications, Domain Models, System Sequence Diagrams, JUnit tests, and implemented these design steps in an object oriented programming style. Team created our own Feature X and implemented it into Small World code.

- *(G) Network Security:* Seed Labs - **Seed Lab 1:** Frequency Analysis, Encryption Algorithms (AES, DES, DES3) along with different Encryption Modes (CBC, ECB, CFB, OFB) using OpenSSL, Padding, Error Propagation, IV and Common Mistakes, Using Python Crypto Library; **Seed Lab 2:** MD5 Hash Generation and Exploitation; **Seed Lab 3:** RSA- Deriving Private Key, Encrypting, Decrypting, and Signing a Message, Verifying a Signature.

- *Cyber-Physical Security:* IoT Cyber-Physical Security Simulation - Developed and simulated IoT devices connected together on a network in a smart home scenario using OMNeT++. Measured the transfer rate of an attacker drone sending packets to an IoT device at two different movement speeds.

- *Information Security Research (INSuRE):* Convergence of Blockchain and Zero Trust - Project Goal: Implement a blockchain in a zero trust environment by utilizing FPGAs as the root of trust. Established a blockchain network that can support multiple remote users. Programmed a working SHA256 function onto a FPGA.

- *Senior Capstone Experience/Senior Seminar:* Created a functional website that is able to efficiently allow admins to distribute help, set up meetings, and provide contact information to clients.

Programming:
- Data Mining (G); Software Engineering Principles (G); Performance Evaluation of Algorithms (G); Python; Advanced Data Structures and Algorithms; Formal Language (Automata Theory); Secure Software Engineering; Program Language Theory; Software Engineering Principles; Data Structure Algorithms; Problem Solving and Programming Concepts; Database Design (Development and Management)

Networking:
- Network Security (G); Cyber-Physical Security; Networking and Communications

OS and Architecture:
- Hardware Security Implementations - FPGA (G); Computer Architecture (G); Concurrent and Distributed Computing; Computer Organization and Architecture; Operating Systems

Information Assurance:
- Information Assurance and IT Auditing (G); Information Security Research (INSuRE)

Communications:
- Technical Writing; Small Group Communications; Public Speaking

Extracurricular:
- OverTheWire Challenges; Capture The Flags (CTF Time, TryHackMe, HackTheBox, PicoCTF); Udemy Networking, WireShark, Python Network Automation, Go Programming, Rust Programming and Ethical Hacking Courses (In-Progress)